November 1943



# Medical Times

The Journal of the
American Medical Profession

Bronchial Asthma
Diagnosis in Old Age
Mental Hygiene Notes

---

Medical Book News Editorials
Contemporary Progress

Vol. 71 No. 11

Address all Exchanges and Books for Review to 1313 Bedford Avenue, Brooklyn, N. Y

Romaine Pierson Publishers, Inc., 34 N. Crystal St., East Stroudsburg, Pa., 95 Nassau St., New York, N. Y.

# Stand by—

## ANNOUNCING TO THE MEDICAL PROFESSION Everywhere

# VITAMINETS 'Roche'

**9 VITAMINS + 5 MINERALS = 14 VITAL ELEMENTS**

**EACH DAILY DOSE (3 tablets) PROVIDES**

| | |
|---|---|
| **Vitamin A** | **5000 U.S.P. units** |
| The minimum daily adult requirement is 4000 U.S.P. units. | |
| **Vitamin $B_1$** | **2 mg** |
| 1.8 mg is the recommended daily requirement. | |
| **Vitamin $B_2$** | **2 mg** |
| Equivalent to the minimum daily adult requirement. | |
| **Vitamin $B_6$** | **0.5 mg** |
| Daily requirement not yet established. | |
| **Vitamin C** | **50 mg** |
| Exceeds the recommended allowance of 30 mg. | |
| **Vitamin D** | **500 U.S.P. units** |
| Exceeds the 400 U.S.P. units advocated as the minimum daily requirement. | |
| **Vitamin E** | **3 mg** |
| Requirement not yet established. | |
| **Calcium Pantothenate** | **3 mg** |
| Requirement not yet established. | |
| **Niacinamide** | **15 mg** |
| While 10 mg is regarded as the minimum daily adult requirement, daily intake of 15 mg is advocated. | |
| **Iron** | **10 mg** |
| Exceeds the 8 mg estimated as minimum daily adult requirement. | |
| **Calcium** | **200 mg** |
| A generous contribution toward the daily requirement. | |
| **Phosphorus** | **175 mg** |
| Effectively supplements normal intake. | |
| **Manganese** | **0.5 mg** |
| Exact needs unknown. | |
| **Magnesium** | **20 mg** |
| Requirements not yet determined. | |

Circumstances today render it expedient for the physician to advise many of his patients of the desirability of using a good, balanced, vitamin-mineral supplement . . . as sound diet insurance.

The new Roche product, Vitaminets, provides a particularly appealing preparation for professional prescription:

**COMPREHENSIVE FORMULA**—Each tablet incorporates 9 vitamins and 5 minerals in significant amounts, appropriate for administration three times a day.

**PHARMACEUTICAL ELEGANCE**—The tablet is so palatable that it can be chewed and swallowed without water.

**ECONOMICAL**—It costs no more than most products that provide vitamins only—the minerals constitute an "extra dividend."

**STRICTLY ETHICAL**—It will not be advertised to the laity in any way—either directly or by drugstore display.

Vitaminets are packaged in bottles of 30 and 100. Your local pharmacy should have Vitaminets awaiting your prescription.

**AVAILABLE AT ALL LEADING PHARMACIES**

## HOFFMANN-LA ROCHE, INC.

**NUTLEY, N. J.**

**VITAMINETS 'Roche' THE VITAMIN-MINERAL SUPPLEMENT**

# EDITORIALS

## *A One Hundred Dollar Bond*


THE deaths resulting from injuries in this war are approximately *one* per thousand, whereas, the rate for the first World War was approximately *five* per thousand. The factors affecting this reduction are: (1) Preventing and combating shock, (2) prevention of infection, and (3) speedy hospital care.

I. *Preventing and combating shock,* by plasma administered early on the field of battle. The use of morphine to relieve pain and the immediate immobilization of fractures, before transportaton, reduced the mortality rate from 85 to 15 per cent in World War I.

II. *Prevention of infection by:*
   1. *Sulfa drugs:* Every soldier carries such a drug. It has been reported that in two of our naval hospitals a total of 50 patients with cerebrospinal meningitis were treated with sulfa drugs without a single death. Another report revealed that 300 patients with bacillary dysentery were treated successfully with sulfa drugs. These facts are most encouraging since we should not forget that in the Spanish-American War more soldiers died from disease than from bullets.
   2. *Immunization:* The armed forces are immunized against diseases such as tetanus, typhoid, smallpox, yellow fever, cholera.
   3. *Proper nourishment:* The armed forces of the United States in this World War II are the best fed troops in the world's history.

III. Speedly hospital care: The patients are transported rapidly to the hospital and the hospital facilities are established close to the fighting front. Evacuation of the injured by air to mobile hospital units and to hospital ships, in areas of combat zones, has enabled effectual treatment to be given within a short time after the infliction of injuries.

WHAT A $100.00 BOND PURCHASES:

1. It will purchase sulfa drugs sufficient to treat 200 soldiers suffering from infectious disease or 1,400 wounds, or
2. It will purchase atabrine sufficient to treat 1,400 cases of malaria or afford prophylaxis to 2,000 soldiers, or
3. It will purchase morphine tablets sufficient to relieve 5,000 soldiers of pain, or
4. It will purchase immunization against tetanus for 2,640 soldiers, or
5. It will purchase vitamins sufficient to keep 10,000 soldiers supplied for one day, or
6. It will purchase first aid packs for 675 soldiers, or
7. It will purchase first aid packs for ten medical privates, or
8. It will purchase first aid packs for four medical officers, or
9. It will purchase eight litters to transport the wounded, or
10. It will purchase three splint sets to care for fractures, or
11. It will purchase ten units of plasma sufficient to combat shock in five cases.

In conclusion,

Let us back up our boys who are imperiling their lives for us.

Let us keep our deaths low with proper physical fitness, sulfa drugs, plasma, morphine, modern management and transportation, and unselfish service.

Let us resolve that all men so far as possible will be given proper hospital and medical care so they may come back home.

Let us resolve today that under our institutions men may be permitted to live in health and strength.

Let us all individually do our share *Buy Bonds Now* and supply our boys with the necessities to win the war and bring them back home sooner.

Vincent P. Mazzola

## *Alarm-Clockism and the Public Health*

**Methought, I heard a voice cry, 'Sleep no more! Macbeth does murder sleep, the innocent sleep; Sleep, that knits up the ravel'd sleeve of care, The death of each day's life, sore labor's bath, Balm of hurt minds, great nature's second course, Chief nourisher in life's feast:' . . .**

The Macbeth of the following indictment is the alarm clock—murderer of sleep and health. But in this indispensable gadget lives the tyrannous god who makes the machinery of our social order tick.

There can be no effective revolt against this ruthless, Fuehrer-like orderer of lives, for all our materialism is accurately geared to it as the barnyard is geared to the morning crow of the cock. Our industrial system could not be operated without this cursed bit of specialized energy which we have advisedly called a god and which we must continue to worship so long as our present social ideology endures by our own desire and necessity.

Yet we need not delude ourselves as to certain public health penalties that we pay for our idolatry and achievements. We venture to ask how much of our premature senility, early impotence, universal headache (see ads and listen to radio), loss of beauty, chronic fatigue and constitutional inadequacy is the result of the daily loss of needed sleep over the years, to say nothing of ailments stealing in upon soil prepared for them by impaired resistance. Why try to treat a peptic ulcer the owner of which lives by an alarm clock?

Bataan and Corregidor were compressed within a matter of days, but the sum of the alarm clock's toll, in time, may make a high total too, if too many hours are cut from the proper number of hours of rest.

Consequent morning fatigue is warded off with coffee (coffee's chief role). Perhaps the cigarette's fascination is connected with the slight, evanescent rise of blood sugar which smoking one induces; thus the "chain smoker" boosts himself along. But afternoon drowsiness, that all but universal phenomenon, nearly "gets" him every day. For the too much anguished, alcohol and aspirin have their roles.

We hear admirable admonitions regarding the public health. Said Louis H. Pink, president of the Associated Hospital Service of New York, speaking in September of this year at Buffalo: "The need for increased public health education is evident. People are not yet fully aware of the opportunities or the promise of preventive medicine." We should say they are not? But we must exempt alarm-clockism, for a revolt against this Fuehrer would never do.

According to the *Statistical Bulletin* of the Metropolitan Life Insurance Company for August, "current mortality data indicate that 1943 will witness the first setback in longevity since 1929." Mr. Pink, quoted in the foregoing paragraph, in the same address cited overwork as a present-day evil, and went on to say: "Judging from the sale of magazines on how to grow strong, and the sale of vitamins, which rivals the sale of patent medicines a generation ago, we are, as a nation, concerned about our health. But there is much misinformation among laymen and the need for public education along health lines is great. Our alert public health commissioners should take greater advantage of newspaper space and radio time which is so freely offered to speak out frankly about conditions at our own back door, so that we may learn what to do about them. . . . The large percentage of [draft] rejections does indicate very clearly that we have not made the progress in health which might have been expected, and that a real effort to secure more effective preventive medical care must be made. . . . It should be possible to turn the health lessons of war into an advantage for the entire population for years to come."

Go softly, Mr. Pink, we cannot forthwith begin by telling our jaded people the whole truth about sleep. We must discreetly let the subject of sleep slumber for awhile, perhaps indefinitely. Rather we must endorse the tendency of certain "scientific" groups and individuals to declare healthful, in time of war, what they

have deplored in time of peace, for example, an extremely low protein component in the people's diet. They would probably approve an extremely low sleep requirement.

The superintendent of a great State Hospital in a predominantly rural district once ascribed the large population of his institution to the very early rising of the farmers and their families in his area of service. Very likely, if all our people were grouped according to their rising habits, some interesting psychiatric ratios might be worked out.

Let us at least hope that German alarm clocks ring an hour earlier than ours; that alone would surely determine the outcome of the war. We should inquire into Fritz's habit in this regard. If what we suspect is true the war's end should now be near. So when we discuss the wearing out and irreplaceability of German machinery let us not exclude the human machinery of the Reich from our deliberations and estimates.

### *A Special Reason for the Earliest Possible Diagnosis of Malignancy*

Behan, in his *Cancer* (1938), states that animals usually do not have multiple carcinomas. Some research workers, he says, claim that a tar irritation cancer cannot be produced in mice in which a spontaneous tumor of the breast is present. So, he concludes, the presence of a primary cancer in man apparently acts as a restraint upon the development of another primary cancer; even when the latter does apparently occur it may really be metastatic. This question comes up most frequently with skin cancers. Certainly there is an inhibition against *simultaneous* origin of primary multiple cancerous growths. *The protection seemingly persists for a variable period,* says Behan, after the primary tumor is removed. Woglom, cited by Behan, noted that the tissues from killed rat sarcoma 39 were endowed with the immunizing principle [*Am. J. Cancer* 17:873 (April) 1933].

Have we not here the strongest of reasons for recognition and treatment of malignancy at the earliest possible moment, so as to take advantage of an early protective reaction of the organism to cancer which is not operative in late lesions?

### *Barbarian Benefactors*

IN connection with the threatened sacking of Rome we have all recalled the Vandals, Goths and Heruleans, those early despoilers of the imperial city. The Heruli, who figured largely at the death of the Empire, were a heathen Teutonic tribe of the Jutish peninsula and Elbe basin. These ineffable barbarians practiced a sweet custom when threatened by disease or old age. They called in an executioner, who stabbed them to death on their funeral pyres. Here we seem to have the early genesis of euthanasia, for their mode of death, be it remembered, was a source of happiness to them.

These people should not be forgotten by modern exponents of a happy death for the ill and aged.

All honor to the Heruli!

### *The Ubiquitous Peptic Ulcer*

IN our August issue we expressed editorially some wondering as to the fitness of modern civilized men for warfare, so great are the number of rejections and so great the number of service breakdowns. We remarked that there were no figures available as to difficulties of like nature in Germany, upon whom "glorious" war has been supposed not to impose the same strain as upon other peoples, because of allegedly special German fortitude and aptitude.

Some light on this subject has since been thrown by Lieutenant Colonel C. I. Hunn, commander of a prisoner-of-war camp at Trinidad, Colorado. In an interview on October 4 with a representative of the Scripps-Howard Alliance he said that many of the former members of Rommel's Afrika Korps who were in his custody suffered from peptic ulcer.

It would appear that the master race does not escape the humiliating ills of other folk.

### *Softies and Supermen*

IN an age when the highest stamina is demanded from our potential and actual fighting and working forces the same government that makes the demand is committed to a paternalism that seeks frankly to release its people from strain, worry, fatigue and deprivation, which kind of paternalism, of course, never bred

*—Concluded on page 354*

# DIFFERENTIAL DIAGNOSIS OF BRONCHIAL ASTHMA

**LEO H. CRIEP, M.D.**
Pittsburgh, Pa.

THE clinical syndrone of bronchial asthma is only too well known. Chevalier Jackson's dictum, however, that "all that wheezes is not bronchial asthma," emphasizes the need for an understanding of the points concerning the differential diagnosis of this condition.

This paper will concern itself with only two conditions that offer a problem in this connection. These are (1) Cardiac asthma and (2) Chronic cor pulmonale.

*Cardiac Asthma*

In patients over 50, especially in those who do not have a pre-existing history of asthma, a great deal of study is sometimes necessary in order to differentiate between cardiac and bronchial asthma. This differentiation is obviously important also from a therapeutic viewpoint. In bronchial asthma, difficulty in breathing is due to edema of the bronchial mucous membrane and not to circulatory failure. On the other hand, in cardiac asthma it is due to heart failure, particularly failure of the left ventricle.

*Case report.* Patient, a male aged 56, reports to the clinic complaining of paroxysmal attacks of asthmatic breathing dating back for one year. The attacks come on more or less suddenly, usually at night. They are accompanied by shortness of breath, wheezy respiration, and cough. The cough is somewhat productive. He states that he has had some hypodermic medication with variable relief. There is no history of allied allergy. There is no family history of allergy. About two years ago, he had an attack of retrosternal pain. The pain lasted for only a few minutes, did not radiate to any particular region, was not accompanied by shock, but was fairly severe when it occurred.

Physical examination is negative except for definite evidence of pulmonary emphysema and many wheezing râles heard throughout the entire chest. Cardiac examination negative.

Urine, blood count, and serology are negative. Chest x-ray shows some evidence of pulmonary fibrosis. Heart not enlarged. Electrocardiogram shows a Q wave in lead 2 and 3 and elevated ST interval in lead 2 and 3 with an inverted T wave in lead 2 and 3.

Skin sensitization tests do not indicate any marked skin sensitivity to any particular allergen.

*Comment:* This type of patient presents, indeed, a very serious problem because one must decide whether one is dealing with true bronchial asthma or a chronic infectious asthmatic bronchitis on the one hand and asthmatic breathing due to left ventricular failure on the other. As a rule, bronchial asthma does not come on after the age of fifty or fifty-five. There are no electrocardiographic findings indicating myocardial changes in an instance of bronchial asthma and there is no associated cardiac pain.

THE mechanism of cardiac asthma is well known. The left ventricle fails, either because it is not sufficiently strong to pump efficiently against the increased peripheral resistance of hyptertension, or because the myocardium receives an inadequate blood supply through its narrowed coronaries. The lumen of these vessels may be narrowed also because of spasm, sclerosis, or thrombosis. Failure of the left ventricle leads to a decreased aortic (systemic) and cardiac output, so that anoxemia of the respiratory and neighboring vital centers is produced. Irritation of the respiratory center gives rise to labored and embarrassed breathing which wakes the patient. Irritation of the vagus center produces bronchospasm, thus adding to the patient's discomfort. Because the left ventricle does not empty efficiently, it cannot accommodate the blood from the left auricle. Retrograde stasis and pulmonary hypertension naturally follow.

If, as a result of treatment, the left ventricle recovers, or if the increased respiratory rate succeeds in producing the necessary amount of hyperventilation, the central anoxemia is relieved and the patient gets better. Otherwise, the condition progresses to pulmonary edema and a fatal termination.

From the Allergy Division of the Montefiore Hospital and the School of Medicine, University of Pittsburgh, Pittsburgh, Pennsylvania.

The aim of treatment is to reduce the irritability of the vital centers, and to improve cardiac function. The first is achieved by the use of morphine. Because this drug depresses the vital centers its beneficial effect is, as a rule, prompt and therefore dramatic. Since morphine abolishes the cough reflex, and since the vital centers play no role in the production of bronchial asthma, such results are usually not obtained from its use in this condition. Indeed, as a rule, morphine is definitely contraindicated in these instances.

THE second purpose of treatment, that of reducing heart failure, is brought about by such measures as will retard the return flow of blood to the right heart, slow the heart rate, and improve the coronary circulation. The patient instinctively sits up, because the sitting posture compresses the abdominal veins and retards the return flow from the abdomen and the extremities.

In acute emergencies, particularly if fibrillation and congestive heart failure are present, digitalis is given intravenously. Nitrites given subcutaneously or under the tongue may be of value, because they produce peripheral and perhaps coronary dilatation as well. Such measures are of no avail in bronchial asthma, because heart failure plays no role in its production.

On the other hand, adrenalin, a drug which so effectively relieves bronchial asthma, is rarely valuable in cardiac asthma. The reason is not difficult to comprehend. Wheezy and labored breathing in bronchial asthma is, in all likelihood, the result of swelling of the bronchial mucous membrane in response to allergic irritation. Adrenalin, through its vasoconstrictor action, relieves this edema, enabling the patient to breathe more easily. Its use in cardiac asthma is not only of doubtful value, but is frequently contraindicated, for fatalities induced in this manner are not entirely unknown.

*Bronchial asthma and asthma due to cardiopulmonary changes (chronic cor pulmonale)*

*Case report.* Patient, aged 53, states that he has been subject to attacks of nocturnal dyspnea associated with wheezy respiration occurring paroxysmally for the past four and a half years. The attacks come on more or less suddenly, usually at night, and are accompanied by shortness of breath. The patient also states that he has rather marked dyspnea on exertion. Walking against a cold breeze or up a slight hill causes him to become short of breath so that he must stop. No family history of allergy. No pre-existing asthmatic history.

Examination reveals the usual findings associated with asthmatic breathing. In addition, there is marked pulmonary fibrosis on x-ray. The heart shows an enlargement, especially of the right border. There is a predominance of the pulmonary artery and conus with an accentuation of the second pulmonic sound. Electrocardiogram shows a right axis deviation and an inversion of the T wave in leads 2 and 3. Skin tests are negative.

*Comment.* This is the type of patient who also offers a very serious problem from the point of view of differential diagnosis.

In a certain group of patients the lungs may age more rapidly than the rest of the body. This aging process is analogous to premature arteriosclerosis involving the heart, kidneys, or brain. As a result of such a process, there comes about a progressive thickening of the blood vessels of the lungs so that the pressure within the pulmonary arteries increases, giving rise to what is referred to as pulmonary hypertension. This in turn leads to an increased load on the right heart with peripheral venous congestion, dilatation of the right heart and dilatation of the pulmonary artery and conus. There is also accentuation of the second pulmonic sound. In advanced cases where most of the classical findings enumerated above are found the condition is referred to as Ayerza's disease (chronic cor pulmonale).

EXTENSIVE fibrosis of the lungs occurs so that the amount of breathing space (vital capacity) diminishes. The individual has, to all intents and purposes, only one or one and a half lungs to breathe with, so that definite clinical manifestations become evident. These include dyspnea with or without wheezing, cyanosis, hemoptysis, polycythemia and clubbing of the fingers. These are due to the primary changes in the lungs.

Postmortem in these patients shows a thickened (more than 5 mm.) right ventricle. The clinical manifestations are

similar to those which may be brought on experimentally by ligation of the pulmonary artery. The outstanding characteristic of cor pulmonale is the absence of nocturnal dyspnea but the presence of marked congestive manifestations, whereas in left ventricular heart failure nocturnal dyspnea, Cheyne-Stokes respiration and the other manifestations are due to pulmonary congestion.

The diagnosis of chronic cor pulmonale is made from the history, the symptoms, the findings of an enlarged right heart, prominence of the pulmonary artery and of the conus, accentuation of the second pulmonic sound and little or no enlargement of the left ventricle. The electrocardiogram shows a right axis deviation and is negative in leads two and three.

The prognosis in these instances must take into consideration the underlying cause. As a rule the condition runs a slowly progressive course. An intercurrent lung infection may lead to death.

TREATMENT is directed toward an alleviation of the primary condition and the management of the accompanying heart failure. This includes complete physical rest and psychotherapy, oxygen, oxygen and helium, digitalis, sedation including opiates if necessary, reduction of salt and fluid intake, and administration of mercurial diuretics.

Routine physical examination, roentgenographic study of the chest, electrocardiographic studies, and sputum examination will eliminate confusion with other conditions, such as tuberculosis or mediastinal tumors.

It is for the reasons stated above that the differential diagnosis between bronchial asthma and other conditions becomes rather important because the treatment is so different. It is well not to accept the patient's diagnosis of "asthma" without performing careful physical examination and without recourse to various laboratory aids, particularly electrocardiographic study and an x-ray of the chest. After one has subjected the patient complaining of asthma to prolonged allergic studies and treatment, it is humiliating to find that the actual condition is heart disease or tuberculosis.

1004 MAY BUILDING.

# DIAGNOSIS IN OLD AGE

## A Statistical Study

*Concluded from the October, 1943 issue*

**ALBERT MUELLER-DEHAM, M.D.**

**Associate Visiting Physician, Welfare Hospital for Chronic Disease (second Division), Department of Hospitals, City of New York; formerly Professor of Internal Medicine, University of Vienna Medical School and Chief Medical Division, Municipal Hospital for Chronic Disease, Vienna.**

THE second part of the discussion relates to the comparison between clinical and pathological diagnosis. This task will be attempted in two stages. The first will restrict itself to the basic diagnostic feature of causation of death, the second will include more accidental factors.

*Quality of diagnosis.* The main proof of a final clinical diagnosis is its correct rendering of the basic diseases and of the immediate causes of death. This must be adjudicated without pedantry or hair-splitting; the right perspective must be taken; literal correlation is neither possible nor necessary. It can make, f.i., no difference when in a case of pneumonia the presence of pulmonary abscesses evaded detection, or when, in cardiac failure, a concluding pulmonary edema was overlooked.

From this point of view 46% of the perused clinical diagnoses may be regarded as *correct*. This is not a very high percentage when compared with the degree of exactitude usually reached with younger patients in a well conducted hospital.

The unsatisfactory diagnoses are deficient in very different degrees and aspects.

From the Second Division (Director Thomas A. McGoldrick), Welfare Hospital of the City of New York.

To those readers especially interested the author's statistical material, upon which this paper is based, is available.

| I | II | IIa | IIb | IIc | III | IV |
|---|---|---|---|---|---|---|
| Correct | Not satisfactory | Wrong | Incomplete | Not confirmed statements | Erroneous interpretation | Combination of III with IIb or IIc |
| 46% | 54% | 20.5% | 14.5% | 5% | 11.5% | 1½% |

Some are fundamentally *wrong*. It is a failure—often an unavoidable one—when bronchopneumonia and arteriosclerosis are assumed and an extensive miliary tuberculosis is found, even if some additional terminal lobular pneumonia is present. The same may be said of a statement which overlooks a large neoplasm or a vital pyelonephritis; 20.5% of the diagnoses are of this quality.

A further group is characterized by *incompleteness*. One essential part of combining factors is missing. A chronic pyelonephritis is rightly assumed, but a lobular pneumonia with the formation of abscesses and pulmonary edema is not mentioned. Or a cystitis is ascertained, but not the accompanying bilateral pyelonephritis. A liver cirrhosis is diagnosed, but not the subsequent primary carcinoma, etc. The percentage of this group is 14.5%.

Contrasting with this type is another where an essential part of the diagnosis is *not borne out* by necropsy; most frequently a pneumonia is assumed but not confirmed. The same observation relates to myocardial infarction, or a cerebral accident where no recent lesion is found. Such errors constitute 5%.

The next rubric is based on erroneous interpretations of signs which are correctly found and localized, f.i., a liver tumor is thought to be an echinococcus growth but reveals itself as a cancer; a lobular pneumonia is taken for a lobar, a cerebral encephalomalacia for a hemorrhage, or vice versa. Such deviations form 11.5% of the material. In a few cases wrong interpretation of facts was combined with another either incomplete or unconfirmed statement (1.5%).

A reminder of the intrinsic diagnostic difficulties in senility is perhaps to the purpose before the reader makes any unjustified criticism. Improvements are possible, but exactitude is not obtainable at present.

*Senile morbidity.* The last section deals with the numerical comparison of clinical and pathological diagnosis of different diseases and syndromes without restricting itself to the essential features causing death; in short, with senile morbidity.

*Cardiovascular system.* No diagnosis is encountered more frequently than that of arteriosclerotic and hypertensive cardiovascular disease in various formulations; no pathological findings are more numerous than those relating to this group: arteriosclerosis of the aorta and arteries, particularly those of the coronary and renal vessels, encephalomalacia and hemorrhage of the brain, myocardial hypertrophy, fibrosis, etc. Nevertheless, a statistical comparison of these two aspects of the group as a whole is not feasible; the language of the clinician and the pathologist deviates too much. The first speaks of cardiac failure, of arteriosclerotic and hypertensive cardiovascular disease, of angina pectoris; the other gives precise pathological changes and localizations. Essential hypertension is the clinical expression; myocardial hypertrophy and benign nephrosclerosis or arteriolosclerosis is the pathological equivalent. Without a special preparation of data no mathematical correlation can be established. Considerable arteriosclerosis is found in almost every senile autopsy. With this in mind, only some special syndromes will be chosen and compared.

*Rheumatic heart disease* with its sequelae of valvular lesions is registered 20 times in the pathological, 4 times in the clinical records with three coincidences. The cause of these shortcomings in the 17 unrecognized cases was mainly a combination of arteriosclerotic and rheumatic alterations. In 11 of these cases the rheumatic affection may be designated as accidental or contributory, in 6 as essential, a main factor of death.

*Endocarditis and pericarditis.* The presence of acute endocarditis (4, three of them severe with sepsis or pericarditis) was not diagnosed. Neither was that of acute pericarditis (4, one of them tuberculous), nor of its chronic obstructive form (1), and of major pericardial adhesions (2).

*Recent coronary infarction and obstruction.* The numerous findings of old coronary infarctions and their sequelae withdraw from a statistical comparison because they are usually covered only by a general clinical term, such as heart disease or myocardial damage. The acute and recent form is rightly assumed in 6 cases; the diagnosis is made erroneously in 10 where generally a sudden death was interpreted in this manner; in one of these a myocardial rupture, in another an asphyxia by food aspiration was found. It was encountered 4 times without clinical evidence. Sudden or unexpected death without electrocardiographic evidence, or without the distinct clinical picture, does not warrant the diagnosis, even if some precordial pains were present. Many myocardial infarctions proceed without pain or with indistinct symptoms in senility and do not lead to death, as proved by the frequent sequelae of old infarctions.

*Aortitis luetica,* recognized twice, once wrongly assumed, was found in three additional instances; in one of them the pathological findings were questionable.

*Aortic aneurysm.* The correct diagnosis of three cases, two of them multiple, is supplemented by the pathological discovery of two further instances, one of a small aneurysma disseccans and one of the abdominal aorta.

*Peripheral arteriosclerosis.* 5 cases of peripheral arterial thrombosis and gangrene were confirmed. An intra-abdominal thrombosis of the superior mesenteric and right common iliac arteries evaded the clinician, as did an arteriosclerosis of the smaller pulmonic vessels.

*Venous affections.* The statements about venous disease are scanty, both in the clinical as in the pathological records, in the latter apparently because nonmedical considerations impeded the adequate investigation of the peripheral parts of the lower extremities where venous thrombosis can be expected to occur frequently in senile cases during severe illness and ante mortem. Only 4 cases of peripheral thrombophlebitis and phlebitis are mentioned by the pathologist, 2 by the clinicians. Important intra-abdominal lesions were found 4 times in necropsy (v. iliac and cava; v. iliaca and femoralis; recent thrombosis of the superior mesenteric vein combined with old portal and splenic thrombosis in a case of liver cirrhosis; v. cava and the renal and iliac veins in a case of rectal cancer).

*Cerebral accidents.* It is rather unwise for the clinician to attempt the distinction between the different forms of cerebral vascular accidents in senility. It has already been noted that the material allows only an evaluation of the recent accidents. The clinical diagnosis of cerebral hemorrhage (6) was confirmed only twice; it corresponded twice to encephalomalacic lesions, once a brain tumor was present and once no gross pathology was found. The diagnosis of recent encephalomalacia, otherwise thrombosis (8), proved right in 4 cases. In the other 4 a brain tumor, an intradural hematoma, an old encephalomalacic lesion were encountered, and once no gross anatomical damage. The more cautious expression of hemiplegia or cerebral accident covered 3 cases of recent encephalomalacia, one of subarachnoidal and of intradural hematoma and one of brain metastases. The clinical opinion of subarachnoidal hematoma corresponded to a pachymeningitis hemorrhagica interna.

Two conclusions may be drawn from these figures, both amply supported by clinical experience. 1) The diagnostic differentiation between encephalomalacia and hemorrhage is practically impossible in senility and should not be attempted. The size of the focus and the degree of concomitant edema and swelling of the brain are more important for the signs than the nature of the lesion. 2) In cases of cardiac failure, cachectic and infectious disease, no signs for localization suggesting cerebral accidents should be taken at face value when they occur in the last days before death. In spite of the usual signs of an anatomical lesion only edema and senile changes may be encountered in autopsy.

A transitional group between circulatory and respiratory disease is established by *Pulmonary thrombosis and embolism,* which were noted in the pathological diagnoses 8 times. This relatively small number indicates that only major lesions were registered. Pathological statistics by other authors show a higher frequency. No clinical diagnoses correspond. It should be emphasized that pulmonary embolism makes distinct clinical signs, particularly bloody sputum, only exceptionally in senility. Moreover, as a secondary feature it is generally veiled by other pulmonary or circulatory changes.

*Pulmonary edema* is encountered 64

times in the pathological records, but only mentioned twice in the clinical statements; in one of them only atelectasis and hydrothorax were found. Quite a number of factors are responsible for this lack of clinical evidence. One may rightly assume that its presence was recognized in a number of cases, but not included in the diagnosis because it was deemed to be a secondary and terminal element. In other cases, patients obviously in the last stage were not submitted to the exertions of an additional physical examination. Furthermore, the clinical diagnosis of this affection is sometimes difficult, even impossible, in seniles, mainly when congestion or pneumonia is its source. Nevertheless, there remains a considerable number of cases where pulmonary edema plays a more independent role and causes death which might well be postponed by adequate treatment. Consequently, special attention should be assigned to this syndrome when ascertainable.

*Respiratory organs.* The subject of *pulmonary emphysema* and of *bronchitis* with its insufficient representation has already been dealt with. The rare affection of a bronchopleural fistula with empyema and its clinical recognition, also a bronchostenosis, should be noted. The absence of bronchogenic cancer—so frequent in old age—is worthy of remark.

*Pneumonias: Lobular pneumonias.* The sum of clinical and pathological statements of lobular or bronchopneumonia, amounts to no less than 90. An exact correspondence is found in 39 cases; one must add 5 to these where the pathologist registered a lobar form, and 4 where the clinical diagnosis of lobar pneumonia was corrected to that of lobular, also one where lipoid pneumonia and atelectasis were found. There are altogether 49 cases where the clinical view of a pneumonic process was confirmed. In twenty patients a positive diagnosis was not verified; pulmonary edema and congestion were the most frequent findings in such cases, but tuberculosis, pleural effusions, and atelectasis also occurred. In 24 instances the clinicians missed the diagnosis. Among them are a number of slight or terminal affections, but some large and rather independent forms are also included. The lack of distinct local and general signs in senile pneumonia is well known; in spite of bedside x-ray it is often a difficult and uncertain diagnosis.

*Lobar pneumonia* was encountered post mortem 7 times; once the clinical statement corresponded, lobular processes were assumed in 5, one diagnosis was overlooked. In addition, an opinion of lobar pneumonia was corrected to that of a pulmonary tuberculosis.

*Lipoid pneumonia* was revealed in 9 seniles, never isolated, always in conjunction with other types of pneumonia, mostly lobular, once with a lobar, once with a *chronic pneumonitis;* the latter affection was found in a further instance; its clinical assumption in another case was not confirmed, only congestion was found. Aspiration pneumonia (1) concludes the series.

*Pulmonary abscesses.* Their formation in the course of pneumonia (9) was not recognized during life. *Anthracosis and fibrosis* of the senile lung was found 14(0) times, *atelectasis* 8(0) times. THE FIGURE IN BRACKETS, FOLLOWING A PATHOLOGICAL STATEMENT, INDICATES HERE AND IN THE FOLLOWING PAGES THE NUMBER OF CLINICAL RECOGNITIONS.

*Pleura.* Affections of the pleura are a rather unsatisfactory subject for statistical analysis since the repeated term *"pleural effusion,"* both in clinical as in pathological statements, does not allow a differentiation between inflammatory and circulatory processes. Acute pleuritis is registered 6 times, chronic pleuritis 11 times, with one bedside diagnosis each. Major pleuritic adhesions are noted in 26(0) cases; they played no important role in the clinical picture.

*Empyema of the chest* was revealed 11 times in autopsy, 4 times with the correct diagnosis. Among the remaining 7 instances one was an old sacculated effusion. Why were the others missed, since the physical signs of pleural effusion are generally distinct in the aged, in contrast to those of pneumonia? The main reason is the insidious beginning and course of this affection in senility, and the equally insidious transformation of a serous exudate to a purulent form. Additional cause is furnished by an all too great reliance on negative x-ray chest plates. Frequently they do not reveal sheet-like forms of exudation which produce distinct physical signs. Exploratory taps, and particularly their repetition, would have clarified the situation. This remark also refers to other forms of

pleural effusions which are all too frequently overlooked.

*Tuberculosis.* It must be mentioned that open tuberculosis is not kept in the Welfare Hospital, but is transferred to other institutions. Six cases of miliary tuberculosis evaded detection; 3 of the 8 fibrocaseous forms were recognized; only one of the remainder was of greater clinical importance. Inactive old pulmonary tuberculosis of major dimensions was found 10 times in necropsy, fresh tuberculosis of the lymphnodes (sizeable manifestations) 4 times. Two cases of specific pleuritis, one each of pericarditis, osteomyelitis, and a subacute ulceration in the colon are to be added. All these affections were not covered by clinical diagnosis.

*Malignant neoplastic disease of the digestive tract.* One carcinoma of the esophagus was not recognized. Six stomach cancers were encountered with 4 correct diagnoses; one clinical statement was corrected to that of a primary liver carcinoma. Of 4 colon cancers 2 were detected, 2 missed, but one of these was a double carcinoma (stomach plus colon). Two cancers of the rectum (1), three (1) of the gallbladder, three (0) of the liver, and two of the pancreas (clinically one as malignancy of undetected origin) conclude this group.

*Other neoplasms.* Three brain tumors, one metastatic, were not suspected. One cancer of the kidney (0) and three (1) of the bladder were encountered. A breast carcinoma (1) and one of the ovary (1), site undetermined, represent the female group. The male section shows one prostatic cancer (1). An osteogenetic sarcoma, subsequent to Paget's disease, was found. In altogether 33 cases of malignancy the clinical diagnosis of neoplasm was made 15 times; three times with undetermined primary localization. These figures demonstrate the scanty reliability of only clinical statistical statements in this field, and the insidious, often silent, course of these affections in senility.

*Digestive tract* (Excluding malignancy). The *esophagus* is only mentioned in connection with liver cirrhosis (varices) and in the additional finding of a submucous fibroma. *Stomach:* 2(0) cases of peptic ulcer without clinical importance are noted. It is remarkable that gastritis is only once mentioned clinically in connection with acute gastro-enteritis, and once in the pathological records. This contrasts with the relative frequency of the affection, but the clinical diagnosis in senility lacks certitude; it is difficult to distinguish from age-changes of the organ; the pathologist finds the mucous membrane of the stomach too frequently disfigured by post mortal alterations. The *duodenum* was the site of one acute, one chronic, and two healed ulcers, also of one diverticulum, all clinically silent. One cavernous *hemangioma of the jejunum* was an additional finding. One fatal acute hemorrhagic enteritis is covered by the diagnosis "enteritis;" another clinical statement without corresponding pathological remarks has already been mentioned. Two (0) cases of ulcerative, otherwise hemorrhagic, *colitis* are noted; the already mentioned case of tuberculous ulcerations has to be added; further, 3(0) cases of polyposis, one the source of a rectal carcinoma, and one (0) of papilloma. Of 14(0) instances of diverticulosis of the lower intestinal tract 13 were without clinical signs of importance, whereas the last was complicated by diverticulitis and led to a perforative peritonitis. One (1) case of prolapse of the rectum, one of a recto-urethal fistula (0), and one (0) of acute proctitis are noted. The frequency of hemorrhoids is not registered in diagnosis. *Pancreas* is only mentioned in the additional finding of an instance of cystic pancreatic disease.

*Liver.* Cirrhosis was encountered 9 times, once the source of a primary liver carcinoma; the diagnosis was made in three cases, but five of the remaining are described as early forms, a period where the recognition is practically impossible in senility. One (0) case of hepatitis, one (0) of chronic cholangitis, of hemosiderosis (0), and of capsulitis (0) are mentioned.

*Cholecystitis and cholelithiasis.* Major, often very advanced, affections of the gallbladder were found post mortem in 47 patients. It is universally recognized that gallbladder disease runs a silent course in senility. This observation is fully borne out in 42 cases, where the affection was not included in the clinical diagnosis, but had also nothing to do with the cause of death. In four fatal cases the diagnosis of cholecystitis, or cholelithiasis, was made; three died after operation, one also presented a gallbladder carcinoma. Only in one exitus was the diagnosis missed, the patient dying with localized peritonitis

and a subphrenic abscess. These figures illustrate the insidious character well, but also the relative harmlessness of gallbladder disease in senility; further, the grave risk of operation, the performance of which, in old age, ought to be restricted to urgent cases only. This contrasts with the good results obtained by more active procedures in younger years. The quota of more correct diagnoses can be augmented by careful observation and evaluation of small, often ambiguous, signs and symptoms, or by routine x-ray and duodenal examinations. It would not be to the advantage of the patients if, by these methods, the number of operations were to be considerably increased. In a few of these cases the presence of gallbladder disease was probably known or suspected in earlier periods of observation, but not included in the final diagnosis.

*Peritonitis.* One case of perforative peritonitis has already been mentioned; a local form was found three (0) times as the consequence of inflammatory disease, mainly of the gallbladder, and, moreover, encountered in three postoperative cases.

*Hernias.* Inguinal hernias are mentioned 16 times, not quite correlatively by pathologist and clinician, because, obviously, sometimes the one or other regarded its registration as non-essential. The actual number was probably larger. There were seven instances of *incarcerated* hernia, six of them operated; in the seventh suppuration and abscess formation was treated but the fact of a partial incarceration overlooked. Three cases of umbilical (3) and of epigastric (3), one of ventral (1) and one of postoperative (1) hernia are further noted.

*Urinary tract: Bladder: Cystitis.* Cystitis is registered 49 times post mortem, 14 times included in the clinical diagnoses. In 12 of these cases the bladder affection participated in the cause of death, generally together with pyelonephritis; in two its gravity was secondary. The bedside diagnosis is not registered in 10 patients where the affection was of major importance and also not in 25 further instances which were minor. A cystitis cannot evade detection if proper urine examination is performed. The large majority was composed of chronic forms, sometimes with sudden exacerbations and often connected with chronic affections of the renal pelvis or kidneys. Urine examination was performed regularly when the patient entered the hospital. It is true that occasionally the source of the cellular elements has to be traced and, particularly in females, genital discharge must be excluded. But this is easily done. Why, therefore, this omission in diagnosis? In most cases it is simple neglect; recognized facts were not considered. The affection was regarded as too irrelevant, was not mentioned, was underestimated in its possible significance. Leukocytes in the urine—just a senile change, a slight cystitis! This attitude is widespread and is regrettable when once the number of severe complications and the contribution of such ailments to senile death are properly understood. In other cases the first urine examination was essentially negative, but its repetition was omitted. Seniles, even those with acute affections, often do not complain; they do not mention disturbances of micturition; frequently they lose the urine. There may have been no fever, or, in contrast, high temperature, even chills. When high fever is present without an adequate general reaction, with relative well-being, a urinary affection is always to be suspected in the first line; in other cases, only weakness and fatigue obtain. The diagnoses can scarcely be missed when, in all cases of senile deterioration, a specimen of fresh urine is inspected and sediment seen—the inspection being even more important than the microscopical examination. Positive findings, not followed by quick relief and objective retrocession after adequate treatment, indicate thorough but cautious urological investigation. Many diagnostic worries, much illness and misery, and many fatal complications can be avoided by keeping to these simple rules. Senile cystitis is always an important finding. A gangrenous, phlegmonous, diphtheritic, or even a severe purulent cystitis is not infrequently the sole tangible cause of death.

*Trabeculation and diverticulosis* of the bladder was found 8 (0) times, papilloma once (0).

*Kidney: pyelitis and pyelonephritis.* The severe bladder affections are often accompanied by inflammatory disease of the upper urinary tract; on the other hand, even advanced lesions of the latter may be combined with only a slight cystitis. Pyelitis and pyelonephritis of different extension and activity were encountered 39 times in necropsy; the clinical diagnosis was made in only 7 cases, rightly in 6, not confirmed in one. In another instance

acute glomerulonephritis was assumed. Of the remaining 23 affections 12 were of vital importance, the main or contributory causes of death, 20 of minor gravity, including some inactive and two obsolete forms. The general conclusion is unavoidable that urinary infections are surprisingly frequent and clinically important in senility, and that they are insufficiently recognized and evaluated.

*Hydronephrosis* was found in 5(0), *cystic kidney* in one instance (0), *kidney stones* in 4(0), a *perinephritic abscess* once (1), *kidney infarctions* six (1) times.

*Glomerulonephritis* is rare in old age; only one generalized affection is noted in a case of TBC, and further, a focal form subsequent to endocarditis. Two clinical diagnoses were not supported; the one revealed itself as a cancer of the organ, the second as a pyelonephritis.

*Vascular affections* of the kidney are very frequent. Arteriosclerosis and arteriolosclerosis are noted in 55, benign nephrosclerosis in 28 cases with 3 severe and advanced forms. They are either clinically silent or covered by general diagnoses such as "hypertension" and "arteriosclerotic heart disease."

*Male genital organs* are mainly represented by benign hypertrophy of the prostate, which is noted 28 times with 8 clinical statements. This wide difference expresses less a neglect of rectal examination than one of diagnostic registration. The forms with more intravesical protuberances evade digital recognition. Complications, other than those of bladder and kidney, were encountered: prostatitis 4 times (0) and 2 (0) abscess formations. Furthermore, a testicular abscess (1) was found.

*Female genital organs.* It seems that an understandable reticence of physicians to examine female genitalia without strict indications, and some resistance of the patients and difficulties of proper examination and interpretation, combine to impede clinical diagnosis of these ailments. They were found only by the pathologist. One alone was of major importance, a carcinoma of the ovary which was interpreted as malignancy, primary site unknown. The others comprise three cases of ovarian cysts, one of them a dermoid cyst, one an abscess of this organ, and two of hydrosalpinx and pyosalpinx. Leiomyomata and fibromas of the uterus were registered in 11 seniles, fibrosis and papilloma in one each, polyps twice, a pyometra four times, the different forms of endometritis and endocervicitis in 8 patients.

*Miscellaneous affections.* Diabetes mellitus is a clinical diagnosis. Severe blood dyscrasias were all covered clinically with the exception of one case where pernicious anemia was assumed, but a carcinoma encountered. They included 7 cases of severe anemia, one of polycythemia vera, and one of myeloid leukemia. Enlargement and atrophy of the thyroid gland (7), one case of tabes dorsalis, two of Paget's disease (2), one of acute meningitis (1), and one of general unspecific enlargement of the lymphatic nodes deserve mention. Osteomyelitis was registered twice (0), one case being of tuberculous nature. Amyloidosis was met with twice (0). One sudden death was due to aspiration of food, and a fracture of the skull in a case of accident evaded detection. Reasons have been given to show why the numerous cases of arthritis and certain fractures are not statistically evaluated.

AFTER reviewing all the facts one may assert that the initial thesis of the difficulty, uncertainty, and insufficiency of diagnosis in old age has been amply supported and enlightened by many interesting, even surprising, details. Only one old objection may recur, a denial that a generalization of these results is justified. Some excellent physicians will perhaps follow these explanations with some scepticism, even indignation. They will think: it can't happen here; we do not make such mistakes. But their confidence is probably founded, justly founded, on a clientele of the normal age proportion in private and hospital practice. They must first try to isolate the senile cases and remember that in this group only the diagnosis confirmed by necropsy counts. Happy exceptions may exist without specific geriatric concentration, but all the others have to be referred to the introductory remarks of this paper. Paths to a reform must be designated and practical conclusions drawn. This paper would be written in vain if it did not contain a suggestion that some results can be improved, without some indications of definite progress and constructive proposals. But the first step is the recognition of the present unsatisfactory state.

1) The leadership in clinical geriatrics must obviously be taken by the large hospitals with a fair percentage of

necropsies, by the medical schools, and, eventually, by some special institutions. The autopsy is the most important expedient for education and evaluation. The chief objection to a new specialty, geriatrics, is the fact that it would have to include all the branches of medicine as applied to the aged. This task is beyond the capability of one human brain. But there is no objection to paying particular attention to senility in every field of medicine.

2) The habitual neglect of the senile patient must be abolished; he requires an even more thorough examination than the average sick person with all available facilities. The clinical and pathological diagnosis must be prepared in a particular way, the first as complete as possible, also including the minor ailments, *without* fear of confessing uncertitude and of mentioning alternative possibilities, clearly stating the assumed causes of death with the contributory factors. The pathologist should also express his opinion on the latter problems, not content with merely enumerating his findings.

3) It must be acknowledged that the mortality and morbidity statistics are quite insufficient as far as they relate to senility. They are no guide for scientific evaluation or even for practical measures. More reliable material must be prepared. A way must be found to express the simultaneous presence of several death factors instead of the arbitrary selection of one element, avoiding the one-sided preference given to cardiovascular disease. The proposed method of mathematical distribution should be applied or be supplemented by a better one.

4) The diagnostic difficulties in old age spring from two very different sources. The first group is intrinsic, based on the peculiarities of senility, such as lack of symptoms and signs, combined with the multiplicity of diseases. They often constitute insurmountable obstacles, and for a long time will lead to a less satisfactory standard of geriatric diagnosis.

The second group is due to a lack of knowledge and experience in the specific problems. Some mistakes can easily be evaded when the attention of the medical profession has once been focused on them. The best examples are the neglect of the urinary complications or of emphysema and chronic bronchitis.

5) The recognition of the great role played by infections in senile disease and death opens hopeful prospects. Their early diagnosis and treatment may lead to immediate successes for the promotion of health and a further prolongation of the life span, adding "more life to the years" and "years to the life."

*Summary*

1) For the study of diagnosis in old age only that material is suitable which has been controlled by autopsies, although no hospital clientele gives a true representation of general morbidity and mortality. Two hundred clinical and pathological records of patients over 65 years have been perused.

2) The quality of the material is critically reviewed. Due to some unavoidable features of incompleteness and uncertainty the figures given have less of a quite definite, but more of a preliminary and indicative character. Further studies are necessary.

3) Causes of death are frequently difficult to ascertain in senility; they are often not reducible to a single disease or cause, but only to a multiplicity of cooperating factors. This point has been generally neglected in evaluation and statistics.

4) Essential diagnosis, i.e., one restricted to the basic diseases and the immediate and contributory causes of death, was separated from that of affections of secondary importance, and also from accidental findings.

5) In 128 cases (64%) one etiological factor stood so far in the foreground that death could be attributed to it with sufficient statistical justification. This group contained 44 deaths (22%) due to arteriosclerotic and hypertensive cardiovascular disease, 4 to cerebral accidents on a vascular basis (2%), and 8 (4%) to rheumatic heart disease. Infections killed 41 (20.5%) with 17 pneumonias (8.5%—13 lobular and 4 lobar forms), infections of the urinary tract (11 = 6.5%), and tuberculosis (6 = 3%) as the main elements. Malignant neoplasia contributed 22 cases (11%), a miscellaneous group 11 (5.5%).

6) In the second mixed division where no single cause of death could be stated were 78 persons (39%). The statistical reduction to two, exceptionally three, elements is a simplification. Prominent in these combinations was arteriosclerotic and hypertensive cardiovascular disease

with 47, pneumonias with 44, and urinary infections with 14 instances.

7) A method of mathematical repartition of these combining factors is introduced and criticized.

8) The relative influence of cardiovascular disease in this second group expresses itself as 11% (of the whole 200 cases), of cerebral accidents as 2.25%, rheumatic heart disease 0.75%. The infectious group comprises 17.25% (with pneumonias 12.5%, and urinary infections 3.5%). Neoplasms are 1.25%, and miscellaneous affections 1.5%. In summa, 36%.

9) A mortality table for the 200 cases is constructed (*vide ante*).

10) This mortality table deviates from the usual ones which present more than 60% of deaths due to cardiorenal disease essentially. It shows a definitely lower percentage of cardiorenal (40%) and a much higher percentage of infectious diseases (40.75%) [21% pneumonias and 9.75% of urinary infections, 3.25% tuberculosis].

11) These figures cannot be regarded as final, but they accord well with clinical experience based on necropsies and with the statistical publications of pathologists. They constitute a closer approximation to the reality than those customarily issued.

12) The official and usual mortality tables have no scientific and but scanty practical value for the age groups beyond 60.

13) An evaluation of clinical essential diagnosis in senility demonstrates the increasing difficulties and uncertainties in old age; 46% can be classified as correct, the remaining 54% are either wrong (20.5%), or incomplete (14.5%), they contain unconfirmed statements (5%), or an erroneous interpretation of findings (11.5%), with an additional 1½% of combined errors of the last three groups. Diagnosis in old age cannot be judged by the same standards as those employed for younger people.

14) The following statements also include the ailments and findings not contributory to death or of secondary nature, such as terminal pneumonia, pulmonary edema, etc. They refer to senile morbidity and its diagnostic recognition. Only a selection of the more interesting results is rendered. The reasons are given as to why some important affections, f.i., general arteriosclerosis, or arthritic changes are excluded from a statistical evaluation.

15) Rheumatic heart disease and its sequelae were registered 20 times by the pathologist, 4 times by the clinician. Acute endocarditis and pericarditis (4 instances each) were not recognized.

16) The clinical diagnosis of recent coronary infarction and occlusion is made too often (6 correct and 10 unconfirmed statements), particularly in cases of sudden death. On the other hand, it is frequently a silent disease, as shown by 4 pathological findings and the numerous discoveries of old lesions having no history.

17) The clinical distinction between the different forms of cerebral accidents, f.i., hemorrhage and encephalomalacia, is quite unreliable. Brain tumors also frequently present an insoluble problem.

18) Pulmonary edema, not always a terminal or secondary feature, pulmonary emphysema, chronic bronchitis and bronchiectasis were neglected subjects, the latter three also in the pathological records. Pulmonary embolism generally evades detection.

19) In 39 cases of lobular pneumonia both clinical and anatomical diagnosis corresponded; in 10 further instances the differences only referred to the character of the pneumonia, i.e., lobar, lobular. In 24 cases the diagnosis was missed, in 20 the affection erroneously assumed. Lobar pneumonia was found 7 times with one clinical assumption, lipoid pneumonia 11 times, always in conjunction with other forms, once suspected. The formation of pulmonary abscesses in 9 instances was not recognized. The diagnosis of acute and chronic pleuritis was not satisfactory. Empyema of the chest was revealed 14 times with 4 positive statements.

20) The difficulties of the diagnosis of tuberculosis in the aged are well known. Of the 8 fibrocaseous forms three were detected; the remainder were, with one exception, of minor clinical importance; 6 cases of miliary tuberculosis, 4 of intrathoracic active lymphnodes, and a number of other localizations were only found in necropsy.

21) Neoplasms comprise 33 instances with 12 clinical diagnoses and three recognitions of malignancy without determination of the primary site.

22) The non-malignant affections of the gastro-intestinal tract form a miscellaneous group. Ulcers and diverticula were generally ailments giving no signs, with

the exception of a case of diverticulitis of the colon with a perforative peritonitis.

23) Liver cirrhosis was encountered 9 times, including 5 early unrecognizable forms. Three positive clinical statements were made.

24) Even advanced cholelithiasis and cholecystitis are usually silent diseases in senility. Major alterations are found in 47 cases with 5 clinical diagnoses, but only in one of the five fatal cases (three postoperative) was the cause of death missed.

25) The number and clinical importance of the infections of the urinary tract is surprising. Cystitis is found 49 times post mortem, 14 times included in the clinical diagnosis; it was not registered in 10 patients where the affection was of major importance and in an additional 25 minor cases. The causes of this neglect have been discussed.

26) Pyelitis or pyelonephritis was encountered in 38 patients with 6 correct diagnoses at the bedside. It was 12 times of vital importance in the remaining affections as the main cause or as one of the causes of death.

27) Glomerulonephritis is rare in old age; the diagnosis is made too often.

28) Vascular affections of the kidney are very frequent; arteriosclerosis and arteriolosclerosis are registered in 55, nephrosclerosis in 28 cases with three advanced forms. They are asymptomatic or covered by general clinical diagnoses such as hypertension or heart disease.

29) The causes have been discussed as to why prostatic affections (28 cases of benign hypertrophy, 4 of prostatitis, etc.) were not sufficiently expressed in diagnosis (8 times).

30) The affections of the female genital organs were mainly accidental findings, not mentioned by the clinicians.

31) Improvement of the diagnostic results depends on careful study of the senile patient with all facilities and ample control of autopsy. It needs special care in formulating diagnosis, both by the clinician and pathologist, separating causes of death and ailments of minor importance.

32) More reliable statistical material must be prepared on senile morbidity and mortality with consideration given to the multiplicity of simultaneous diseases and of the different factors which combine to cause death.

33) Intrinsic difficulty of old age diagnosis must be separated from those shortcomings which can be avoided by thorough examination and experience.

34) The most hopeful way to obtain immediate medical successes is, at present, the early diagnosis and adequate treatment of infections.

### *Conclusion*

This paper is perhaps a challenge to the medical profession to improve its diagnosis in old age. It is in no way an indictment. Whoever should interpret it as such would only demonstrate that he is not conversant with the specific difficulties and has not even grasped the underlying problems.

239 CENTRAL PARK WEST.

### *Exposition of Chemical Industries*

MARVELS in the production of new substances by chemical methods, only half disclosed thus far, have their counterpart in special processing equipment, concerning which almost no information has been revealed. This equipment had to be invented, planned and built before production for wartime uses could begin in a big way, yet much of it is still secret. Many details that may be revealed, however, including not a few bearing on postwar plans, will form a leading interest at the 19th Exposition of Chemical Industries, which will open in Madison Square Garden, New York, on December 6th next.

American manufacturers have advanced far beyond several of the techniques known to enemy industrialists, and for that reason the extent of some exhibitors is still undetermined. In other instances, displays have been completely planned and sectioned models, special photography and other exhibit materials are already undergoing preparation.

# MENTAL HYGIENE NOTES

## CASE NOTES IN EXTRAMURAL PSYCHIATRY

## CASE XVII: Senile psychosis in a 64-year-old white female

**FREDERICK L. PATRY, M.D.**
*Albany, New York*

*COMPLAINT PROBLEM:* Patient's son stated that he has noticed that his mother's memory is lost. There has been a change in her behavior: "Today she cut up some good clothes; gets up in the middle of the night, seems mixed up, and will make her bed. She does not know the names of those about her but knows her own name."

*PRESENT ILLNESS:* Well until two years ago. Gradual onset. First noticed she would repeat five or six times things that happened in the collar shop where she had worked for nine years. However, she remained at her work until six months ago when she retired at her son's suggestion. She began to carry stories, fantasying various situations. She has been rather difficult to live with and expressed preference to live with a son with whom she formerly made her home. On the other hand she did not like it at this latter place when she did live there.

The *course* of present illness has been progressively worse. Three months ago she "went for" her daughter-in-law. Following an argument, patient took some digs at her and scratched her left arm.

About seven weeks ago she got up from bed one night and soiled in bed as well as on the floor. She was found at 2 A.M. up and about lighting matches, apparently looking for something. When asked the next day about her performance of the previous night she did not remember.

On another occasion she stated that she was going to meet her sister who had been dead eight years. For the past month she has been "slipping more." Her family has been getting out of patience with her. They have to repeat many times what they wish her to do as she forgets almost as quickly as she is told. Moreover, patient is requiring more personal care. She is unable to take a bath without supervision as she will wash herself with anything at hand. She has to be told what to do and then supervised as she may forget to carry through what she is told. If not kept after she will forget to take the bath she set out to take. Recently she has been hiding everything under her bed, mattress or pillow.

Retires regularly at 7:30 P.M. and usually arises at 8:30 A.M. However, she frequently gets up and wanders about during the night. At times she is found sitting in the kitchen in the pitch dark and, when asked why she is there, she will state that she thought it was time to get up.

Appetite is very good. Eats too much and too fast. Hardly waits to chew her food.

Bowels are regular. May get up four or five times during the night. Occasional soiling but no wetting on bed or clothing.

Two days ago she seemed exhausted all day long and was thought to have had a "heart attack."

She seems to be happy but at times is irritable with two children in the home. No suicidal tendencies observed.

*PERSONAL HISTORY:* Second oldest of five children. Birth and development said to be normal. No knowledge of early neuropathic traits.

Prepsychotic personality is described as very jovial. Worked hard all her life. Enjoyed company, mixer. Popular.

No severe illnesses, accidents or operations. In June, 1941, she had the first attack of a burning sensation in the stomach lasting two hours. The second attack of epigastric distress occurred in December, 1942.

Sixth grade achievement in school. Ability to read but does not write. Spoke French fluently until three years ago when she lost contact with French associates by going to live with a son.

Worked from age 13 in various mills. Following marriage at age 30 she continued to work until two years ago.

Offspring consists of two sons aged 29

and 27, the latter being quiet and rather introverted. Patient's husband died four years ago in a state hospital where he was confined eight years following cerebral hemorrhage associated with syphilis.

Good habits. No indulgence in alcohol or smoking. Tea and coffee, moderate user. Catholic, regular attendant until two months ago. For some time she had been unable to go alone.

*FAMILY HISTORY:* Father died aged 73 of heart failure. Married four times, previous wives deceased. Mother died in her 30's, cause unknown. There were three brothers and five sisters. A brother aged 43 died suddenly of heart disease. A sister died of cancer and another sister died at childbirth. History of nervous and mental diseases in direct and collateral lines denied.

*NEUROLOGICAL AND PHYSICAL EXAMINATION:*

*GENERAL OBSERVATION:* A small framed, fairly well developed, quite well nourished, adult white female who appears to be somewhat older than her actual age of 64 years. Gives the impression of being in good health for her age. Ability to respond to commands. Walks with certainty. Hair very gray and thin, compatible with age. No cranial tenderness or abnormality; no fractures or scars. Skin and mucous membranes of good color. Height five feet one and one-half inches. Weight 95 pounds (118 pounds 1½ years ago). Pulse 84, regular. Radial sclerosis, beaded. Heart sounds normal. Blood pressure 144/80. Teeth fairly well preserved, some caries. Thyroid normal. No glandular enlargement. Head not remarkable externally.

*CRANIAL NERVES:* No olfactory complaints. Pupils equal, central and circular, react to light and accommodation. Wears strong plus bifocal lenses, last changed three years ago. No gross defects in visual fields. Fundi show moderate arteriosclerosis. III, IV and VI cranial nerves negative; V negative; VII, VIII, IX, X, XI and XII negative.

*MOTORIAL DATA:* No weakness, atrophy or fibrillations; grips equal. Gait normal. No tremor or ataxia. Muscle tone good. Characteristic word finding difficulty. Tries to glibly cover up memory deficit by referring questions to others or by utilizing pantomine during the past 7 or 8 months. No loss of sphincter control.

*SENSORIAL DATA:* No loss of deep or superficial sensibility made out. No asteriognosis; no loss of sense of position or vibratory sense. No tenderness of spine, muscles or nerves. No pain or hyperesthesia. Romberg absent.

*REFLEXES:* Tendon reflexes all increased but equal. No clonus. No Hoffmann.

*VEGETATIVE NERVOUS SYSTEM AND ENDOCRINES:* No gross abnormality.

*MENTAL STATUS:*

*ATTITUDE AND GENERAL BEHAVIOR:* Displays appropriate social reactions and superficially appears to be in good contact. She is polite, notices others about her although is somewhat embarrassed when she is unable to call even her own son by name. In such instances she attempts to "save face" by asking the desired information from others. Neat, cooperative, normal posture.

*STREAM OF THOUGHT:* No spontaneity. Has to be guided in conversation as answers are apt to be irrelevant and rambling.

*MOOD:* Objectively, smiles in a pleasant, sociable manner. Subjectively, "Not so bad, happy."

*CONTENT OF THOUGHT:* Denies worries. States she once had enemies but does not recall any at present. Denies hallucinations. Ideas rather diffuse and answers tend to be evasive.

*SENSORIUM, MENTAL GRASP AND CAPACITY:* Marked deficits in memory. Knows the day of week but does not know the month or year. Seeks correct information with smile from her son. When asked if her memory was poor, she replied, "What will I do?"

Disoriented for place. (Where are you?), "I don't know." (What state is this: is it Quebec?) "—No, I don't think so." (What country are you in?) "Tell me." (Where are you now?) "Don't know." (Who is the President of the United States?) "Don't ask me." Does not know the name of the Governor.

Unable to identify persons. (Who is that? [son]), "That lady's mother." (What is your son's name? [pointing to him]) "What is his name? Who is he? I don't know." (Is he related to you?) "To that man there." (Who's that? [pointing to daughter-in-law]) "Same as

me, ain't it, almost . . . I don't know."

Patient also has inability to name objects and demonstrate their use. (Pen) "It's a . . . what is it?" (Spectacles) "That is . . . something like that, isn't it?" Points to glasses (Examiner points to scissors) Answer correct (Pencil) "You tell me . . . wash something." (Keys) "What are they?" (What are they used for?) "I don't know what to say." (Match) "What is it . . . it's a . . . just a . . . that . . ." (What do you do with it?) "I don't know." (Do you know who I am?) [examiner]) "I don't know."

(2 plus 2) "4". (5 plus 4) "Half a dollar or so." Unable to take serial 7's from 100. Cannot multiply 3 by 3.

Insight lacking; judgment poor.

*DIAGNOSIS:* Senile dementia with cerebral arteriosclerotic features. In this 64-year-old woman we observe marked memory and judgment defects. Moreover, associated with these organic deficits we find a marked change in behavior during the past 2 years in which the course has been definitely worse. At first she began repeating happenings several times. Later she carried fantastic stories. She became more difficult to live with. Emotional irritability increased and she attacked her daughter-in-law. Sleep became disturbed and she would get up in the middle of the night and ofttimes make her bed. There was marked deterioration of personality revealed in soiling in bed and on the floor one night. No memory for her abnormal behavior the next day. Her relatives became very disturbed when she cut a number of good clothes. Marked anomia (inability to name objects and persons). Marked word-finding difficulty with tendency to perseveration or repeating part of what is attempted to be remembered. There is, however, some focal destruction revealed by amnesic and optic aphasia. Arteriosclerotic features are revealed in word-finding difficulty, tendency to perseveration, aphasia and marked irritability.

In the main, however, the clinical picture is one of senile psychosis, simple deterioration. This is an organogenic reaction associated with cerebral atrophy in which one finds wide sulci, angular gyri and relatively less atrophy of gray matter than that of the white matter. Microscopically there is to be found increased pigmentation in the gray matter, loss of cells in the narrowing cortex, and various stages of neuronal degeneration. There are usually found the so-called *senile plaques*, small, structureless, deep-staining collections of fragments and fibrils scattered throughout the deeper layers of the cortex and usually annular in shape.

*PROGNOSIS:* Progressively worse.

*TREATMENT:* In view of the obviously dangerous behavior, personality deterioration, progressive difficulty in management owing to increased irritability associated with memory and judgment deficits it is important that this patient be committed to a mental hospital. Accordingly, arrangements were made for her further care and treatment in a nearby state hospital. Although in recent years there has been a tendency to keep old people at home, such as those who may be called senile with normal memory deficits, mild emotional disturbances, reminiscent tendencies, self-centering of interests and forgetfulness (especially changes of recent occurrences), yet the line must be drawn when we find such abnormal behavior developing in the senium as to make social adjustments more or less impossible and hazardous, both for the patient as well as for those with whom he lives. Such a patient as has been described above would not be suitable material in an old lady's home or even a nursing home. Such psychotic individuals should be cared for in either private or state mental hospitals.

*218 State Street.*

### *Dr. Theodore G. Klumpp*

DR. Theodore G. Klumpp, president of the Winthrop Chemical Company, and formerly chief of the Drug Division of the U. S. Food and Drug Administration, has been elected a member of the Academia de Ciencias Medicas, Fisicas y Naturales de La Habana, Cuba.

# CONTEMPORARY PROGRESS

## PHYSICAL THERAPY

### *Present Status of Therapeutic Hypothermy*

M. K. NEWMAN (*Archives of Physical Therapy*, 24:389, July 1943) notes that when general crymotherapy was employed in the treatment of cancer, it was found that the low temperatures used were always "anesthetic," relieving pain and controlling local inflammatory reactions. More recently the use of cold in the treatment of war wounds and industrial accidents has been studied. In both types of trauma the physiologic principles involved are the same—there are large masses of damaged tissue with infection present and potential hemorrhage. By the use of cold, the inflammatory reaction is controlled; the tissue heals slowly or, if necessary, preparation for amputation can be made with a minimum of shock and infection. Ambulances can be fitted with portable refrigerating units for the application of cold; naval craft are provided with "the essentials of refrigeration equipment" that can easily be adjusted for local application of cold. Cold has also been applied with good results in the treatment of "immersion foot" and frostbite and of burns, and in peripheral vascular disease. The local application of cold "lowers the metabolism of the part, prevents the absorption of toxin and the advance of bacterial infection, relieves pain and prevents thrombosis and embolism." The author also states that the treatment of shock "must undergo a change in concept," as the application of heat may be dangerous in this condition, since it causes vasodilatation and a fall in blood volume; the possible value of cooling under such conditions should be recognized.

COMMENT

*Intense cold has been noted as numbing, and even lethal, in reports of exposure both scientific and lay. In the use of general crymotherapy for cancer, drug addiction and other conditions, the chief effect noted was analgesia and, in cases of ulceration, healing was reported, especially by Fay and Smith. These findings have led to further studies in war and industrial injuries, where cold has been used. To prevent the spread of infection and allay inflammation, ice cold applications, wet or dry, have long been known to surgery. The effect of heat and cold on the circulation is well exemplified by a film used for teaching purposes by the A.M.A. from studies made at the University of Pennsylvania School of Medicine, which can be had for the asking. Care must be taken as to the* how, when *and* to whom *cold is to be applied in the too great enthusiasm for an old measure newly employed. Indiscriminate use of widely heralded "new discoveries" whether of drugs or methods is to be guarded against, especially in the very old or very young and the weak. As to* shock, great heat *has not been used so injudiciously as a rule. The ordinary blankets enveloping the cool or cold body, even with the common far-from-hot-water-bags, few in number, placed alongside them at the sides of the torso, and/or extremities, could hardly be counted upon to greatly raise the temperature as those doing hyperthermy can testify, As to* peripheral vascular disease, *the stage of the disease, the state of the patient and especially the etiology must be the guides in the choice of heat or cold. An ever-increasing body of literature on the use of cold is piling up and is well worthy of study.*

*M. C. L. McG.*

### *Refrigeration Anesthesia in Skin Grafting*

H. E. MOCK, JR. (*Journal of the American Medical Association*, 122:597, June 26, 1943) reports the use of refrigeration anesthesia for skin grafting in 27 cases in which small or multiple small split thickness skin grafts were required. Refrigeration anesthesia had previously been used by the author and his associates for the amputation of extremities.

This method was used for anesthetizing the skin graft donor sites. For this purpose, ice bags are applied directly to the area from which the graft is to be taken two hours before the operation; the number of ice bags used depends upon the area of skin to be anesthetized. The ice bags should be tied or bandaged in place, as this slight pressure deepens the anesthesia. The bags may have to be refilled in hot weather, but otherwise they are not disturbed until the surgeon is ready to operate; the maximum anesthetic effect lasts for about twenty minutes after removal of the ice bags. No preoperative medication is necessary, unless the patient is "apprehensive." The anesthesia was complete in 24 of the 27 cases in which this method was used; 3 patients complained of "a burning sensation" when the graft was cut, but no other anesthesia was necessary; in these cases a full two hours was not allowed for "chilling." Refrigeration had no noticeable effect on the growth of the graft or the healing of the donor site; healing was complete in two or three weeks in "almost every case." The grafts were successful in 23 cases, and in the other 4 cases failure could not be attributed to the method employed.



COMMENT

*This is in line with the work done in* amputation *by* refrigeration *as discussed in these columns some months ago. Any method that will ease pain and eliminate anaesthetics or analgesic drugs, in those not able to take them, is a step forward and a much needed saving in these days of mass injuries with depleted manpower, medical and lay. The author is to be congratulated on his high percentage of cleared cases and his early application of new principles.*

*M. C. L. McG.*

### *Artificial Fever and Vitamin Therapy in Treatment of Anterior Poliomyelitis*

S. STONE (*Archives of Physical Therapy*, 24:350, June 1943) reports the use of artificial fever therapy combined with the administration of thiamine hydrochloride. An inductopyrexia cabinet was used for the induction of fever; the temperature was gradually raised to 104° or 105° F., and maintained above 104° F. for one or two hours. Ascorbic acid (150 to 200 mg.) was given to all patients while undergoing the fever treatment, together with fruit juices and saline solutions. When thiamine chloride was first used with fever therapy it was given intravenously or intramuscularly during the height of the fever, but since 1941 thiamine has been given by intraspinal injection eighteen to twenty-four hours previous to each fever treatment. Vitamin B complex and wheat germ oil have also been given by mouth daily. Eleven of the most severely affected children with anterior poliomyelitis, admitted to the author's service through the Crippled Children's Services of the State of New Hampshire, have been treated with artificial fever combined with vitamin therapy. All had extensive involvement of one or more extremities, generalized muscle pain, spasm and rigidity of the back and neck. Six were given intramuscular or intravenous injections

of thiamine hydrochloride in addition to vitamins B and E orally and artificial fever treatments; 5 were given intraspinal injections of thiamine hydrochloride in addition to artificial fever and oral vitamin therapy. Four to ten fever treatments were given, all of which were well tolerated. This treatment resulted in all cases in relief of pain and spasm, improvement in the circulation and in the texture of the skin of the affected extremities, prevention of contractures and improvement in the strength of the affected muscles; all of the children have remained in excellent health since treatment was completed; two children have required a single brace each, and one other child may require a brace for a time. The author maintains that this combined vitamin-artificial fever therapy "has all the advantages of the hot fomentation treatment" and in addition "favorably influences the regeneration of some neurones not completely destroyed by the virus." The action of this combined treatment is evidently non-specific and is due to "improvement in cell metabolism" and relief of vasospasm in the extremities affected.

COMMENT

*Whilst eleven is a small series of cases, the method is well worth trying in the hope of further adding to the scant store of knowledge on this dread disease, especially at the present time, when a shortage of physicians and nurses trained in the Kenny treatment must of necessity curtail civilian efforts. Hyperthermy increases the blood flow throughout the body, the blood more readily absorbs oxygen and catabolic products are more quickly disposed of. Likewise, pain, tenderness and vasospasm are relieved and local circulation is improved, preventing organization of exudates. The addition of the vitamins is of great help and their effect is increased by the use of hyperthermy.*

*M. C. L. McG.*

### *Infra-Red Urticaria*

A. L. WATKINS (*Archives of Physical Therapy*, 24:291, May 1943) notes that unusual sensitivity to physical agents is a well-recognized condition, but is not of common occurrence, "as judged by the literature." In a review of this literature the author has found no case reported of urticarial response to wavelengths in the infra-red zone. Urticaria due to sunlight has been attributed by others to the near ultraviolet and to the blue and violet portions of the spectrum. The author reports a case in a man 37 years of age, who showed an urticarial reaction on exposure to sunlight and to luminous and infra-red heating lamps. Photosensitivity studies showed that this patient's hypersensitivity was confined to infra-red rays, principally in the wavelengths from 7,900 to 14,000 angstroms. Considering the widespread use of infra-red lamps for local heating effects, urticarial reactions to these wavelengths must be "extremely rare."

COMMENT

*Photosensitivity has been discussed, looked for and warned against since radiation therapy was first used and though frequently reported by patients it is decidedly uncommon. Specific sensitivity to infrared radiation is so rare as to be generally unknown as the author states, since it is not reported. "Marbling" of the skin with itching, from too long exposure, has frequently alarmed patients but urticaria has not been encountered in the services of several workers handling many cases and others would have rushed into print long ere this.*

*M. C. L. McG*

## PUBLIC HEALTH, INDUSTRIAL MEDICINE AND SOCIAL HYGIENE

### *Plumbism Resulting from Oxyacetylene Cutting of Painted Structural Steel*

I. R. TABERSHAW and associates in the Massachusetts Division of Occupational Hygiene (*Journal of Industrial Hygiene and Toxicology*, 25:189, May 1943) report a study of 14 men engaged in salvaging an old elevated structure, using oxyacetylene torches for cutting the steel girders; the source of the lead to which these workers were exposed was the lead-bearing paints and filler which had been used on the girders. Heating in the cutting process causes the lead to volatilize; determination of lead concentration in the atmosphere surrounding these workers showed an average of 12

mg. lead to 1.0 cubic meters of air, while the "maximum allowable concentration" is only 1.5 mg. per 10 cubic meters. Although these workers used respirators, which, however, involved exposure to the working atmosphere for short periods of time, all but one of the 14 showed increased lead excretion in the urine in amounts indicating "hazardous exposure"; and practically all showed slight or major symptoms of lead poisoning during the salvage operation. The conditions of this salvage operation are very similar to those involved in the repair of damaged ships; and also in marine construction if steel parts are painted to preserve them before being cut for use. Workers "in both these categories" are undoubtedly exposed to a definite "lead hazard."

COMMENT

*The occurrence of lead poisoning in this particular instance indicates the need of mechanical ventilation in addition to the routine use of respirators to reduce the heavy exposure.*

*E. G. B.*

## *The Economy of Contact Investigation in Venereal Disease Control*

N. W. GUTHRIE (*American Journal of Syphilis*, 27:439, July 1943) presents a study of investigation of contacts of patients with infectious syphilis, under treatment at the Johns Hopkins Hospital Syphilis Clinic. Of the contacts named by these 248 patients with infectious syphilis, 175 were traced. Of these 59 were examined at the Clinic, and 27 new cases of infectious syphilis were found; 116 were located by visiting, and of these 86 were examined as a result of this first "locating" visit; 27 new cases of infectious syphilis were found. Repeated visits were made in the remaining cases, but were much less effective in securing examination of these contacts and in the discovery of new infectious cases. Of a total of 408 visits to contacts, 10 visits were required to bring one infectious case of syphilis under control. The first "locating" visit resulted in discovering one case of infectious syphilis for every 4.3 visits; but where repeated visits were made, nearly five times as many visits were required to locate a single case of infectious syphilis. Such repeated visits are especially ineffective when the contact has been located and has been notified to attend the clinic for examination. From these findings the author concludes that when a contact of an infectious syphilitic patient has been located by visiting and "is aware that (he) should attend the clinic for examination," further visiting is not usually indicated, as the cost per infectious contact discovered by this method is "unjustifiable."

COMMENT

*Investigation of contacts of patients with infectious syphilis is an important method of finding new cases; usually this work is done by the local Department of Health. The author has shown an excellent return of new cases from his investigations. Many physicians in private practice secure the contact history and in turn refer it to the department of health for the usual follow-up investigations.*

*E. G. B.*

## *Dynamics of Air-Borne Infection*

W. F. WELLS and M. W. WELLS (*American Journal of Medical Sciences*, 206:11, July 1943) report a study of epidemics of measles and mumps—air-borne infections—in certain schools. From this study, they come to the following conclusions: The rate at which infective material is "contributed" to the atmosphere depends upon the duration of the infective stage of the disease in infected persons, and also the number of susceptible persons infected during this time interval. In an air-borne epidemic, therefore, the rate at which the air becomes infected depends also upon the rate at which "susceptibles" become infected by the air; but this is influenced by the rate at which infective material is removed from the air by ventilation or other means. These school studies also demonstrated that a tenfold increase in winter ventilation does control the epidemic spread of air-borne contagion in the schools; and that irradiation of the atmosphere by ultraviolet light is also effective in the control of air-borne infection. In studying school epidemics, it must be remembered that in some cases infection acquired outside the school room may mask the effect of the protection inside the school room afforded by increased ventilation or ultraviolet irradiation. This may explain the disappointing results ob-

tained in previous attempts to reduce the incidence of colds among school children by irradiation of the school room atmosphere. "A major fraction of exposure" must be prevented to demonstrate control of such infections. The authors are convinced, however, that "radiant disinfection of the atmosphere of selected aggregations" (such as schools) "offers an experimental technique for disclosing channels of epidemic spread of contagion within the community."

COMMENT

*This represents one of the preliminary studies of the effect of irradiation upon airborne infection. As such it has considerable significance but additional experimental use and controlled observation is necessary to determine whether the benefits warrant extensive use of irradiation. These studies will be of parallel interest and value with those involving the use of glycol vapors for air sterilization.*

*E. G. B.*

### *Improved Technic for Isolation of Dysentery Bacteria from Stools*

I. J. KLIGLER and his associates at the Hebrew University of Jerusalem, Palestine (*American Journal of Public Health*, 33:682, June 1943) describe a new method for the isolation of dysentery bacilli from the stools. This method is based on experiments by the authors and the findings of other investigators showing that bacteriophage is present in the stools of dysentery patients, and is responsible for the "rapid death" of the dysentery bacilli in such stools. Laboratory workers have long recognized the fact that cultures made from dysentery stools shortly after they are voided give a higher percentage of positive results than if culture is delayed for several hours; this is to be explained as due to the action of the phage. The authors have found that if dysentery bacilli are added to a normal stool, they survive for twenty-four hours, but if phage is also added, the bacilli cannot be cultured from the stool after six hours. The experiments also show that if formalin in concentrations of 1:7,500 to 1:10,000 is added to the stool and bacteriophage, the action of the phage against the bacilli is inhibited without destroying these organisms. Of cultures made on 63 stools immediately after voiding, 47 were positive for Flexner or Shiga bacilli; of cultures made six hours later only 14 were positive; but when formalin in concentrations of 1:10,000 and 1:75,000 was added to portions of these stools, cultures were positive in 49 of these specimens after standing six and twenty-four hours in the laboratory. The authors are of the opinion that this method will be of definite aid not only in the diagnosis of bacillary dysentery, but also in the detection of carriers "under field conditions."

COMMENT

*This is an interesting report because of the reason given for survival of dysentery organisms in stools and because the diagnostic method adduced would be of particular value in field operations or where laboratory facilities are not immediately available. The phage explains the frequency with which stools are negative from positive clinical cases and any method by which positive cultures can be obtained in such cases will be of decided diagnostic value.*

*E. G. B.*

## OPHTHALMOLOGY

### *Riboflavin for Rosacea Keratitis, Marginal Corneal Ulcers and Catarrhal Corneal Infiltrates*

C. A. CONNERS, R. E. ECKHARDT and L. V. JOHNSON (*Archives of Ophthalmology*, 29:956, June 1943) have found that rosacea keratitis and allied corneal lesions, characterized by the presence of superficial vascularization and superficial marginal infiltrates in the arcus senilis area, are associated with riboflavin deficiency or with some metabolic disorder that can be corrected by the administration of riboflavin. The best method for the study of retention of riboflavin has been found to be the intramuscular administration of a test dose of 5 mg. riboflavin dissolved in water; with this test 5 out of 6 patients with rosacea

keratitis showed evidence of riboflavin deficiency on the basis of a retention of 40 per cent or more. In the treatment of rosacea keratitis, corneal ulcers and catarrhal corneal infiltrates, intravenous administration of riboflavin has been more effective than administration by mouth alone. The method of treatment now employed consists in the intravenous administration of 1 mg. riboflavin daily for three or four days, and the administration by mouth of a vitamin B complex containing 830 micrograms of riboflavin per teaspoonful, three teaspoonfuls daily for about two weeks, also recommending inclusion in the diet of foods high in riboflavin (milk, liver and eggs). With this treatment, only one patient failed to show a satisfactory response. In this case transfusions of whole blood, with riboflavin added, were necessary before the corneal infiltrates disappeared; the authors consider that the whole blood "supplied some factor or initiated some process necessary for the metabolism of riboflavin."

COMMENT

*Practical experience with riboflavin in various forms of corneal disease have been disappointing. Rosacea keratitis is difficult to diagnose and microsections do not provide an answer to the difficulty. It is also very unsatisfactory to treat and a great many remedies have been proposed, which is proof of the practical difficulties the oculist meets. Marginal ulcers and catarrhal forms require a correct diagnosis of the cause and do not present serious difficulty in treatment according to the means now at our disposal.*

*It must be understood that the group of conditions for which riboflavin and other vitamins have been particularly recommended are the oculist's headache.*

*R. I. L.*

## *Diathermy Coagulation in the Treatment of Angiomatosis Retinae and of Juvenile Coats's Disease*

J. S. GUYTON and F. H. McGOVERN (*American Journal of Ophthalmology*, 26:675, July 1943) report 2 cases in which diathermy coagulation was employed. In the first case, the patient, a girl thirteen years of age, showed early angiomatosis retinae of the right eye and advanced angiomatosis retinae of the left eye. The angiomatous masses in both eyes (only a single angioma in the right eye) were obliterated by diathermy coagulation with the use of Walker pins. The sites of the angiomatous masses "became scars"; the dilated retinal vessels were reduced in size. Vision was "completely preserved" in the right eye, but was not regained in the left eye, although the ophthalmoscopic appearance improved. In the second case, the patient, a girl seven years of age, showed bilateral exudative retinitis (Coats's disease). The condition advanced in the left eye after an attack of measles, until enucleation of that eye was necessary because of early phthisis. The peripheral retinal lesion in the right eye increased progressively in size for eleven months, and then was obliterated by diathermy coagulation with Walker pins. The site of the lesion "became a scar"; edema of the disc and a subretinal exudate below the disc disappeared; and vision in this eye was "completely preserved." The use of diathermy coagulation in angiomatosis retinae has been reported by others with good results. The fact that this treatment also gave good results in a case of Coats's disease is of importance, as no previous treatment of this condition has been successful in preventing the progress of the lesion and in preserving vision.

COMMENT

*The diagnoses of Coats's disease and angiomatosis retinae have but recently been generalized. Attempts have been made to cure angiomatosis by radium seeds but the cases selected had lesions involving the macula or very near to it. The method of treatment suggested in the article is very practical and, if the macula is free, good results should be reported. Inevitably, the patient will not come to observation until the vision of one eye is seriously affected but angiomatosis is usually bilateral and we can now look forward to saving the second eye. The treatment of Coats's disease by diathermy coagulation is original and the authors deserve much credit for the work done.*

*R. I. L.*

## *The Treatment of Herpes Zoster Ophthalmicus with Smallpox Vaccine*

W. I. LILLIE (*New York State Journal of Medicine*, 43:857, May 1, 1943) reports 11 cases of herpes zoster ophthalmicus treated by "vaccination" with smallpox

vaccine at intervals of two to ten days, until symptoms were relieved. Detailed reports of 3 of these cases are given. In one case the herpes had been present for more than three months before vaccine treatment was instituted; this patient showed a severe local reaction to each vaccination, but the eye lesions cleared up rapidly. In the second case the herpes was of over four weeks' duration and had failed to respond to the usual treatment for herpes zoster ophthalmicus, including roentgen-ray therapy and pituitrin injections, in addition to local treatment; definite improvement was noted within four or five days after the first vaccination; four vaccinations at four-day intervals resulted in complete recovery. In the third case, the herpes was of short duration, and no other treatment had been used; the response to the vaccine therapy was prompt and the duration of the disease was much shorter than in the other two cases; vaccinations were given every seventh day in this case. This case illustrates the value of early treatment of herpes zoster ophthalmicus with smallpox vaccine, although the treatment is also effective in relieving both subjective and objective symptoms in cases of longer duration. The author is of the opinion that vaccine therapy should be used in all types of herpetic lesions involving the eye—"not as a panacea, but perhaps for a better clinical classification of herpetiform keratitis." Smallpox vaccine is employed because it is easy to obtain and simple to use.

COMMENT

*Herpes is a virus disease as are smallpox, chickenpox, encephalitis lethargica, etc. Experimental animals may be immunized against herpes infection by using the fluid of lethargic encephalitis brains and vice versa. On laboratory grounds, vaccination should be the most efficient remedy we have, but practically, most of the patients seen with herpes have already been successfully vaccinated and repeated attempts to re-vaccinate have failed. Nevertheless, the experience of a competent observer like the author of this article requires the trial of this method over and over again.*

*R. I. L.*

## *Homatropine-Paredrine Emulsion as a Cycloplegic*

E. YASUNA (*Archives of Ophthalmology*, 30:87, July 1943) reports the use of a homatropine-paredrine emulsion as a cycloplegic in 50 subjects (92 separate eyes, as 8 eyes were amblyopic). These subjects were children seven to sixteen years of age, most of whom had moderate or severe hyperopia and several esotropia. In all cases refraction was performed first with either atropine sulfate ointment applied three times daily for three days or homatropine hydrobromide, 1 to 2 per cent solution, instilled every ten minutes for one hour. After two or three weeks, a second examination was carried out using the homatropine-paredrine emulsion as a cycloplegic. This emulsion contains 1 gm. paredrine hydrobromide and 4 gm. homatropine hydrobromide per 100 cc.; when it is employed as a cycloplegic, one drop of the emulsion is placed in the lower cul-de-sac, with no further medication. In the series of cases studied it was found that this emulsion of paredrine hydrobromide plus homatropine hydrobromide is a better cycloplegic than the aqueous solution of homatropine hydrobromide, but not quite as effective as atropine sulfate. The ill effects of the emulsion—such as headache, pain in the eye or lacrimation—were "minimal." The use of the emulsion has the special advantage that only one instillation is required, whereas atropine ointment must be used three times daily for three days and the homatropine hydrobromide solution requires repeated instillations in the course of an hour. Of the patients in this series, 78 per cent stated that they preferred the homatropine-paredrine emulsion to the other cycloplegics employed. The author considers that this emulsion is "the cycloplegic of choice for office practice."

COMMENT

*This form of cycloplegia is being used by several clinicians and the reports are very generally satisfactory. The price of homatropine may hold up its use for the duration but there are really no satisfactory substitutes for either atropine or homatropine. Combination with paredrine reduces the amount of homatropine used and it is not improbable that, if this technique supplants the usual homatropine, it will remain the method of choice even after the return of approximately normal conditions.*

*Atropine and homatropine have been in use so long that it is very difficult to change over to something new and equally difficult to change back later.*

*R. I. L.*

# NEUROLOGY

### *The Effect of Diabetes on the Nervous System*

W. R. JORDAN (*Southern Medical Journal*, 36:45, Jan. 1943) reports that he has frequently observed that pain in the legs, occurring at night and relieved by walking, is an early sign of diabetes, which is manifest before the typical symptoms of the disease develop or the routine urinalysis shows sugar. In these cases, however, a blood sugar test made one hour after a full meal or a glucose tolerance test will show an elevated blood sugar, suggesting latent diabetes. As the disease progresses, the leg pain becomes more severe, occurring in the daytime as well as at night. If the diabetes is not properly controlled, more severe nervous symptoms including diminution of reflexes and trophic disturbances, such as Charcot's joint, develop. In some cases the symptoms may be "highly suggestive" of central nervous system syphilis; and the suspicion of diabetes is warranted if syphilis cannot be proven.

### *Observations in Electric Shock Therapy Applied to Problems of Epilepsy*

L. B. KALINOWSKY and FOSTER KENNEDY (*Journal of Nervous and Mental Diseases*, 98:56, July 1943) in a study of the effect of electric shock therapy in epileptics and non-epileptics found that the "convulsive threshold" for the electric stimulus varies in different individuals; it is not lower in epileptics than in non-epileptics. A study of the effect of various anticonvulsive drugs on the "convulsive threshold" for electric shock showed that bromides do not raise the threshold; barbiturates raise it slightly; dilantin raises the threshold considerably and modifies the motor phenomena of the convulsion. Convulsions produced artificially in epileptics by means of electric shock raise the convulsive threshold as in non-epileptics. The authors do not consider, however, that the use of electric shock therapy in epilepsy is justified for the purpose of producing temporary protection against spontaneous convulsions by raising the convulsive threshold. Artificially induced convulsions do, however, effectively break up the behavior disturbances or "cloudy state" occurring in epileptics, and this type of therapy is of definite value for this purpose, especially where the action of dilantin is too slow.

### *Plasma Clot Sutures of Nerves*

I. M. TARLOV and his associates at the Jewish Hospital of Brooklyn (*Archives of Surgery*, 47:44, July 1943) report experiments on plasma clot suture of nerves. When the severed nerve ends can be approximated easily without suture, the use of plasma clot gives more accurate apposition than thread sutures. A rubber mold has been devised to hold the nerve ends in apposition while the plasma is applied and until it clots. If there has been so much loss of nerve substance that the nerve ends cannot be brought into apposition without causing a moderate degree of tension, the plasma clot suture is combined with the use of very fine tantalum wire sutures, the sutures being placed at a distance from the cut surfaces of the nerves and thus eliminating "the factor of pull from the nerve junction." In some cases the loss of substance is so great that the use of nerve grafts is essential. The plasma clot technique can also be employed for either single or "cable" nerve grafts; a special twin mold has been devised to facilitate this procedure. In the experiments reported autologous plasma was employed. but the authors are of the opinion that homologous plasma would serve the purpose. Fresh fluid unmodified plasma has given the best results, but some preparations of dried plasma have also given good results, and such preparations can undoubtedly be further developed. The chief advantages of plasma clot suture are that it results in "accurate restoration of fascicular topography" and in the production of a minimum amount of cicatrization at the suture site—both factors that favor more complete restoration of function.

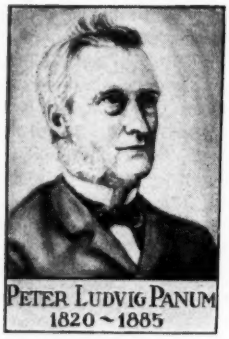
### *Distribution of Iodine in Blood Serum and in Cerebrospinal Fluid*

E. F. GILDEA and E. B. MAN (*Archives of Neurology and Psychiatry*, 49:93, Jan. 1943) report experiments to determine the amount and distribution of iodine in the blood and cerebrospinal fluid. The iodine of the blood and cerebrospinal fluid was first determined in 6 patients who had no meningeal disease and showed normal spinal fluid proteins. Only traces of iodine—less than 0.1 to 0.4 microgram per 100 cc.—were found in the spinal fluids of these patients, although the blood iodine varied from 4.9 to 8.8 micrograms per 100 cc. In another 8 patients with normal spinal fluid 0.1 gm. of inorganic iodine daily in the form of compound solution of iodine U.S.P. was given until the serum iodine was increased to as high as 522 micrograms per 100 cc. There was, however, only a slight increase in the iodine content of the spinal fluid—not more than 6 micrograms per 100 cc. In another patient the administration of desiccated thyroid greatly increased the iodine content of the blood, but did not appreciably affect the idoine of the spinal fluid. In a patient with meningovascular syphilis and high spinal fluid proteins, considerable iodine entered the spinal fluid. In 2 other patients with high spinal fluid proteins the iodine content was higher than normal. These findings give further evidence of the "unique nature" of the cerebrospinal fluid, and the "peculiar selective properties of the blood-cerebrospinal fluid barrier." Chlorides, the authors note, resemble iodides, "so far as ionization and diffusion are concerned," but chlorides are present in larger amount in the spinal fluid than in the blood, while iodides are present only "in traces" in the spinal fluid normally and do not increase proportionately to an increase of iodine in the blood. Iodides evidently are "selectively prevented" from entering the spinal fluid by the blood-cerebrospinal fluid barrier.

# *Medical* BOOK NEWS

**Edited by**
**ALFRED E. SHIPLEY, M.D., Dr. P.H.**

All books for review and communications concerning Book News should be addressed to the Editor of this department, 1313 Bedford Avenue, Brooklyn, N. Y.




## *Classical Quotations*

● I inquired as to what day the rash had appeared on the daughter, asked for the almanac, and pointed at the 14th day after that on which the rash had been noticed on the daughter, with the remark that they should make a black line under that date, for I feared that on it the measles would show itself with the others in the house; if this did not happen, they might perhaps have some hope of being exempt. As it turned out, I was summoned to Fuglejord again 10 days later, and was met with the outcry: "What he said was correct! On the day he pointed out the measles broke out, with its red spots, over all 9 of them!"

**Peter Ludvig Panum**

**Observations Made During the Epidemic of Measles on the Faroe Islands in the Year 1846.** *Bibliothek f. Laeger*, Copenhagen, 3 R., 1:270-344, 1847.

## *Aftereffects of Brain Injuries in War*

***Aftereffects of Brain Injuries in War.*** Their Evaluation and Treatment. The Application of Psychologic Methods in the Clinic. By Kurt Goldstein, M.D. New York, Grune & Stratton, [c. 1942]. 244 pages. 8vo. Cloth, $4.00.

IN this small volume a well-qualified author sets forth his experiences with and interpretations of the psychological dysfunctions encountered in World War I among Austro-German troops suffering from cranio-cerebral traumas.

Reiterating the Gestalt thesis he has so strongly advocated in his extensive writings on other neuropsychiatric subjects, Goldstein discusses each dysfunction in the light of its dynamic relationships to the holistic organism. The chapter on aphasia is particularly well done. Other more circumscribed neurological disturbances are rather summarily discussed.

H. RUSSELL MEYERS

## *The Kenny Treatment*

***The Kenny Concept of Infantile Paralysis and Its Treatment.*** By John F. Pohl, M.D., in collaboration with Sister Elizabeth Kenny. St. Paul, Minneapolis, Bruce Publishing Company, [c. 1943]. 366 pages, illustrated. 8vo. Cloth, $5.00.

THIS is an excellent treatise on Sister Kenny's method of treating infantile paralysis.

The various phases of the disease are taken up in sequence.

There is a complete analysis and explanation of the Kenny concept of the disease.

Her treatment is thoroughly explained. Every detail, from relief of muscle spasm, restoration of incoordination, and rehabilitation, is minutely described.

This book is needed by anyone who wishes to treat this disease.

O. C. HUDSON

## *Beck's Latest Obstetrics*

***Obstetrical Practice.*** By Alfred C. Beck, M.D. 3rd Edition. Baltimore, The Williams & Wilkins Company, [c. 1942]. 938 pages, illustrated. 4to. Cloth, $7.00.

THE success of this textbook is perfect proof of its excellence. Translated into Portuguese in 1940, it gains continually in favor. The essentials of obstetrical practice are set down in clear, lucid style. All that the medical student or general practitioner needs is here. No waste paper. No dead words.

The arrangement is novel and logical, and a large number of line drawings add to the ease of the text. This book will please the teacher and satisfy the student. It is highly recommended for the general practitioner's clinical difficulties.

CHARLES A. GORDON

### *Popular Mental Hygiene*

***Discovering Ourselves. A View of the Human Mind and How It Works.*** By Edward A. Strecker, M.D., & Kenneth E. Appel, M.D., in collaboration with John W. Appel, M.D. 2nd Edition. New York, The Macmillan Company, [c. 1943]. 434 pages. 8vo. Cloth, $3.00.

OF the many books on mental hygiene for lay consumption this book is most highly recommended. It is informative and will prove safe reading even for neurotics.

The present edition has been enriched by pertinent chapters on emotion, anger, and fear. There is also an appendix summarizing each chapter and a series of questions to enable the reader to analyze his own emotional difficulties. This is of doubtful value since it may make many individuals more introspective.

JOSEPH L. ABRAMSON

### *Vitamins*

***The Biological Action of the Vitamins: A Symposium.*** Edited by E. A. Evans, Jr. Chicago, The University of Chicago Press, [c. 1942]. 227 pages, illustrated. 8vo. Cloth, $3.00.

IN about 180 pages of reading matter, fourteen world authorities on vitamins present the most up-to-date information on the biological action of the vitamins. The factors covered include: the chemistry, physiology and clinical aspects of the metabolism concerned with thiamine, riboflavin, nicotinic acid, pyridoxine, biotin, choline, the economy of phosphorus in the animal organism, and vitamin K.

The data presented show that the vitamins are involved in a greater variety of clinical disturbances than was formerly suspected. The book is readable and relatively comprehensive.

MATTHEW STEEL

### *Pathogenic Bacteria*

***Methods for Diagnostic Bacteriology.*** By Isabelle G. Schaub, A.B. and M. Kathleen Foley, A.B. 2nd Edition. St. Louis, C. V. Mosby Company, [c. 1943]. 430 pages. 8vo. Cloth, $3.50.

THIS is a complete guide for the isolation and identification of pathogenic bacteria. The authors have had wide experience in diagnostic bacteriology and present simple methods for the rapid identification of the common pathogenic bacteria, giving explicit directions for the handling of clinical and autopsy material, including the preparation of smears and choice of culture media. There are also chapters on serological study of organisms and of patient's sera. The methods should be valuable to any one doing bacteriology.

EDWARD H. NIDISH

### *Diseases of Women*

***Gynecology, with a Section on Female Urology.*** By Lawrence R. Wharton, M.D. Philadelphia, W. B. Saunders Company, [c. 1943]. 1006 pages, illustrated. 8vo. Cloth, $10.00.

MEDICAL gynecology has received considerable impetus from recent progress in endocrinology and chemotherapy. The author, in addition to describing accepted gynecological principles and illustrating operative procedures, has wisely stressed the care of normal women and the prevention of gynecologic disease, together with a discussion of female urology.

The subject matter is well arranged, clearly written, and a synopsis is placed at the beginning of each chapter. The author has succeeded remarkably well with this combination of subjects.

WM. SIDNEY SMITH

### *War Surgery*

***Burns, Shock Wound Healing and Vascular Injuries.*** [Military Surgical Manuals Vol. V]. Prepared under the Auspices of the Committee on Surgery of the Division of Medical Sciences of the National Research Council. Philadelphia, W. B. Saunders Company, [c. 1943]. 272 pages, illustrated. 8vo. Cloth, $2.50.

THIS monograph was prepared under the auspices of the Committee on Surgery of the Division of Medical Sciences of the National Research Council. Each division was prepared by a small committee under authority of a master committee of which Evarts A. Graham was Chairman.

The subject of Burns is approached from an open minded point of view, and although the best methods are accented there is no attempt at arbitrary preferment. This is of great value on a subject which is changing almost daily. The section on "Shock Wound Healing and Vascular Injury" is covered in the same manner by smaller committees.

In general, the composition of these smaller committees is a guarantee that their outlines and conclusions will approximate the best that can be said on each subject.

ROBERT F. BARBER

### *Care of War Injuries*

***War and the Doctor.*** Essays on the Immediate Treatment of War Wounds. Edited by J. M. Mackintosh, M.D. Baltimore, William Wood & Company, [c. 1941]. 135 pages. 8vo. Cloth, $2.00.

THIS small volume of 135 pages is replete with information concerning

war casualties. It is composed of nine chapters dealing with the following subjects: Fear and Neuroses, Shock and Hemorrhage, War Injuries to Face and Jaw, Surgical Treatment of Chest Injuries, The Immediate Treatment of Air Raid Injuries including the Surgery of the Upper Limb, Lower Limb Casualties, The Management of Head Injuries, First-aid Instruction in War, and finally, Emergency Surgery in the Field.

The object of this book is to teach medical practitioners who may come into contact with war emergencies in their respective towns that which has been learned by the authors of the various chapters through their personal experience.

This volume will be of great help in the organization of our own civil defense problem. It is very highly recommended to all doctors of medicine.

MERRILL N. FOOTE

### *New Edition of Boyd*

***A Textbook of Pathology.*** By William Boyd, M.D. 4th Edition. Philadelphia, Lea & Febiger, [c. 1943]. 1008 pages, illustrated. 8vo. Cloth, $10.00.

AS in earlier editions, new items of physiological and anatomical pathology taken from the current literature (vitamin K heparin and thrombosis, Rh factor, phosphatase, age of myocardial infarcts, pyelonephritis, virus pneumonia, equine encephalitis, etc.) have been added. These with the many clear illustrations of gross and microscopic lesions add to Boyd's concise presentations to make this edition valuable to the student, practitioner, and pathologist in keeping abreast of modern pathological concepts. The bibliography to each subject will direct the reading of the person interested in specific diseases.

A. R. CRANE

### *Sherman on Nutrition*

***Essentials of Nutrition.*** By Henry C. Sherman & Caroline Sherman Lanford. 2nd ed. New York, The Macmillan Company, [c. 1943]. 422 pages, illustrated. 8vo. Cloth, $3.50.

THIS textbook offers reliable, thorough and up-to-date information on nutrition. However, it is written in such terms that to study it does not necessarily require much previous scientific background.

The material is presented so that great flexibility is offered the teacher in the matter of consecutive order of topics, laboratory exercises, etc. It is thoroughly accurate and clearly written, and should prove of much help to the layman interested in learning about nutrition as well as to the teacher of the college-level group.

ETHEL PLOTZ BERMAN

### *How Man Develops*

***Man in Structure and Function.*** By Fritz Kahn, M.D. Translated from the German and edited by George Rosen, M.D. Volumes I and II. New York, Alfred A. Knopf, Inc., [c. 1943]. 742 pages, illustrated. 8vo. Cloth, $10.00.

IN every science there exists a need for some gifted individual to present the fundamentals of the topic in such a manner that the average intelligent reader may understand. It should record truthfully but not sensationally, the nature of that science. Dr. Kahn has achieved that end in a laudable manner. By means of skillful drawings and a lucid text he has presented the nature of the human being in an unique manner. Medical or non-medical, a study of this book is recommended to every reader as an interesting, informative work on the anatomical and physiological nature of man.

G. B. RAY

### *Emergency Wounds of Thorax*

***War Injuries of the Chest.*** Edited by H. Morriston Davies & Robert Coope. Baltimore, The Williams & Wilkins Company, [c. 1942]. 131 pages, illustrated. 12mo. Cloth, $2.00.

THIS book presents a timely subject covered briefly but well in 128 pages. It should be of value to the Senior Medical Student or Medical Officer just entering the service.

It presents in a clear manner much of the emergency treatment which only recently has been included under a special course in the various medical schools. It deals with the anatomical, physiological background of the thoracic cage and its contents, the pathology, general clinical considerations, shock, chest injuries without external wounds, hemothorax, infected hemothorax, penetrating and open chest wounds, anesthesia, and after-care.

Each chapter is briefly descriptive as to physical signs, treatment and sequelae of the average war wound of the chest.

RALPH F. HARLOW

### *A Book for the Epileptic*

***Convulsive Seizures.*** By Tracy J. Putnam, M.D. Philadelphia, J. B. Lippincott Company, [c. 1943]. 168 pages, illustrated. 12mo. Cloth, $2.00.

THIS book is primarily of use for individuals having convulsive seizures. It aims to give general advice on topics

which the practitioner may not have the time to give in a busy office practice. Such questions as "What are the chances for recovery?", "What is epilepsy?", "What occupation should the patient seek?" are answered. Another topic which is considered relates to the legal aspects of epilepsy, which is particularly useful for lawyers and legislators.

This book may be recommended with advantage to any patients, their families and interested friends.

STANLEY S. LAMM

### *Visual Re-Education*

***The Art of Seeing.*** By Aldous Huxley, New York, Harper & Brothers, [c. 1942]. 273 pages, 8vo. Cloth, $2.50.

AT the age of 16 the author had an attack of keratitis punctata which reduced his vision to light perception in one eye and to 10/200 in the other. Later vision was improved with glasses to 10/70 but in which eye it is not stated. In spite of greatly strengthened glasses the author found the task of reading increasingly difficult, but after pursuing a method of visual re-education the author was able "within a couple of months" to read without spectacles and without strain or fatigue. The improvement was accomplished by following simple rules on the "Art of Seeing" propounded by Dr. W. H. Bates.

The author is a writer of note, having many volumes to his credit on a variety of subjects. The book is written in scholarly fashion and breathes sincerity on every page, but from the ophthalmological standpoint the work is sheer nonsense.

FRANK E. MALLON

### *A Handbook on Treatment*

***A Manual of Clinical Therapeutics. A Guide for Students and Practitioners.*** By Windsor C. Cutting, M.D. Philadelphia, W. B. Saunders Company, [c. 1943]. 609 pages. 12mo. Cloth, $4.00.

THIS is a most welcome addition to the series of handbooks of therapeutics and procedures usually published for local consumption at various schools and hospitals. This is probably the best of all and deserves wide circulation.

All of the information given is authoritative, up to date, well indexed and therefore readily accessible. The author has recognized the exigencies of the times and has sensibly included a section on war gases, etc. The volume is well printed, is handy in size and moderately priced.

MILTON PLOTZ

## BOOKS RECEIVED *for review are promptly acknowledged in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notes will be promptly published shortly after acknowledgment of receipt has been made in this column.*

***Textbook of Medicine.*** By various authors. Edited by J. J. Conybeare, D. M. Oxon. Sixth Edition. Baltimore, The Williams & Wilkins Company, [c. 1942]. 1147 pages. 8vo.

***War and Children.*** By Anna Freud and Dorothy T. Burlingham. New York, Medical War Books, [c. 1943]. 191 pages. 12mo. Cloth, $3.50.

***The Therapy of the Neuroses and Psychoses.*** By Samuel Henry Kraines, M.D. 2nd Edition, Thoroughly Revised. Philadelphia, Lea & Febiger, [c. 1943]. 567 pages. 8vo. Cloth, $5.50.

***Allergy.*** By Erich Urbach, M.D., with the collaboration of Philip M. Gottlieb, M.D. New York, Grune & Stratton, [c. 1943]. 1073 pages, illustrated. 8vo. Cloth, $12.00.

***Shipboard Medical Practice. A Handbook of Ship Sanitation and Emergency Medical Aid at Sea.*** By W. L. Wheeler, Jr., M.D. New York, Cornell Maritime Press, [c. 1943]. 114 pages, illustrated 12mo. Cloth, $1.00.

***Introduction to Psychiatry.*** By W. Earl Biddle, M.D., and Mildred van Sickel, R.N. Philadelphia, W. B. Saunders Company, [c. 1943]. 358 pages, illustrated. 12mo. Cloth, $2.75.

***The War on Cancer.*** By Edward Podolsky, M.D. New York, Reinhold Publishing Corporation, [c. 1943]. 179 pages. 12mo. Cloth, $1.75.

***Trail to Light. A Biography of Joseph Goldberger.*** By Robert P. Parsons. New York, The Bobbs-Merrill Company, [c. 1943]. 352 pages. 8vo. Cloth, $3.00.

***Surgical Care. A Handbook of Pre- and Post-Operative Treatment.*** By R. W. Raven. Baltimore, The Williams & Wilkins Company, [c. 1942]. 271 pages, illustrated. 12mo.

***Doctors Aweigh. The Story of the United States Navy Medical Corps in Action.*** By Rear Admiral Charles M. Oman, M.C., U.S.N. Garden City, N. Y., Doubleday, Doran and Company, Inc. [c. 1943]. 231 pages, illustrated. 8vo. Cloth, $2.50.

***War Endocrinology.*** By James H. Hutton, M.D. Chicago, The Wayside Press, [c. 1943]. 363 pages. 8vo.

***Walter Reed Doctor in Uniform.*** By L. N. Wood. New York, Julian Messner, Inc. [c. 1943]. 277 pages, illustrated. 8vo. Cloth, $2.50.

***Nervousness, Indigestion and Pain.*** By Walter C. Alvarez, M.D., New York, Paul B. Hoeber, Inc. [c. 1943]. 488 pages. 8vo. Cloth, $5.00.

—*Concluded from page 325*

a virile race that could "take it." What, after all, are one's glands for?

According to Dr. Madge C. L. McGuinness, Director of the Department of Physical Therapy at Lenox Hill and Misericordia Hospitals, New York City, one 52 per cent of our citizenry are capable of hard work. The other 48 per cent are handicapped by "lack of exercise, machines, malnutrition, fatigue, strain, accidents, self-drugging, drink and tobacco." We see in such handicaps the explanation of much absenteeism.

A Beveridge plan, American style, can be depended upon to complete the exhibit.

### *New Teaching on the Protein Requirement*

IT now appears, according to a Harvard research group, that "in the presence of sufficient calories from non-protein sources, the amount of protein in the ordinary diet of an active adult may be safely reduced to 50 grams per day, of which as little as five grams may be in the form of animal protein," and the protein requirement is not increased in exercise, and physical fitness and efficiency are not impaired or improved on low protein diets adequate in other nutrients." We can well believe that they are not improved, but we can suspect that they may be impaired.

We don't like such pronouncements when they coincide exactly with the pressures and demands of the moment.

It is difficult, say this group, to convince the population that the diet in question will not necessarily impair health. That "not necessarily" is not very impressive.

Such pronouncements would be more acceptable in normal times. They recall too vividly the declaration of the Council of the American Medical Association during the Prohibition era to the effect that under no circumstances was alcohol ever useful in the treatment of disease.

### *Old John Barleycorn Rides Again*

ALCOHOL cannot be said to have passed out of the therapy picture. Paul D. White's approval of its narcotic virtues in angina pectoris is still fresh in the minds of all of us. And now comes the most recent recourse to it—the use of whisky before refrigeration anesthesia in amputations. "Usually," say Mock and Mock [*J. A. M. A.* 123:17 (Sept. 4) 1943], "we give the patient a drink of whisky at the start of the refrigeration and may repeat it at the end of one and a half hours. This greatly helps to allay the apprehension that accompanies any amputation."

✚

### *Medical and Surgical Relief Committee of America*

MORE than $59,000 of medical and surgical supplies were donated during the past six months by the Medical and Surgical Relief Committee to the U. S. Navy, the U. S. Coast Guard, the armed forces of our Allies and to welfare groups here and abroad. This brings the total value of shipments up to $551,699.24 since the Committee was launched three years ago.

The detailed semi-annual review presented to the executive committee at headquarters at 420 Lexington Avenue, reported that over 500 portable emergency medical kits were furnished by the Committee to Navy sub-chasers, destroyer-escorts and Coast Guard patrol boats. Specially designed for the small sub-hunting craft, the patrol-boat and sub-chaser kit is equipped with drugs and instruments to give immediate treatment to casualties or accidents. The medical kits are consigned through the 13 U. S. Naval Districts or are sent directly to the ships' commanding officers.

Sixty-three emergency medical field sets, consisting of two large cases containing antiseptics, bandages, drugs and an instrument roll, were distributed by the Committee among Navy and Coast Guard units, to the War Shipping Administration, the British West Indies, and to several civilian defense stations. (This makes a total of 312 field sets.) Sets earmarked for the War Shipping Administration and the Caribbean area are shipped to strategic ports where they are reserved for shipwreck survivors and injured or ill merchant seamen.